



STIC Search Report

EIC 1700

STIC Database Tracking Number: 163590

TO: Helen Pezzuto
Location: REM 10A29
Art Unit : 1713
August 31, 2005

Case Serial Number: 10/66378 ^{646,378}

From: Kathleen Fuller
Location: EIC 1700
REMSEN 4B28
Phone: 571/272-2505
Kathleen.Fuller@uspto.gov

Search Notes



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
- Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

- Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Expedite this application, please.

2114

Access DB# 163590

SEARCH REQUEST FORM

Scientific and Technical Information Center

A Please Give Request To Ms. K. Fuller

Requester's Full Name: HELEN PEZZUTO Examiner #: 70058 Date: 8/23/05
Art Unit: 1713 Phone Number 302-1108 Serial Number: 10/646,378
Mail Box and Bldg/Room Location: REM-10A29 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

SCIENTIFIC REFERENCE BR
Sci & Tech Inf. Cntr.

Title of Invention: SEE ATTACHED

Inventors (please provide full names):

AUG 24 RECD

Pat. & T.M. Office

Earliest Priority Filing Date: 8/22/03

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

A "functionalized" polymer having a ^① polymer backbone defined in cl. 2 (polyvinylamine is the "elected" species & polyethylenimine is in examples & claim 36), which is "covalently linked" (or reacted with) a functional molecule (diol such as tartrate in cl. 3 and glycidol in cl. 7 is the "elected" species). Also see p. 18-19 attached. Formulas 11, 12, 13 (cl. 4) are the possible functional polymer structure. Formula 13 corresponds to cl. 4.

Key words

separation, filtration, water/aqueous treatment
solutions (see metallic species in cl. 18), impurities,
pollutants, metal contaminants removal.

Many Thanks!

STAFF USE ONLY

Searcher: <u>K. Fuller</u>	Type of Search	Vendors and cost where applicable
Searcher Phone #: _____	NA Sequence (#) _____	STN <u>✓</u>
Searcher Location: _____	AA Sequence (#) _____	Dialog _____
Date Searcher Picked Up: _____	Structure (#) <u>✓</u>	Questel/Orbit _____
Date Completed: <u>8/31/05</u>	Bibliographic <u>✓</u>	Dr. Link _____
Searcher Prep & Review Time: <u>40</u>	Litigation _____	Lexis/Nexis _____
Clerical Prep Time: _____	Fulltext _____	Sequence Systems _____
Online Time: <u>80</u>	Patent Family _____	WWW/Internet _____
	Other _____	Other (specify) _____

=> FILE REG

FILE 'REGISTRY' ENTERED AT 16:39:19 ON 30 AUG 2005

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STRUCTURE FILE UPDATES: 29 AUG 2005 HIGHEST RN 862072-85-3

DICTIONARY FILE UPDATES: 29 AUG 2005 HIGHEST RN 862072-85-3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Structure search iteration limits have been increased. See HELP SLIMITS for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> FILE HCAPLUS

FILE 'HCAPLUS' ENTERED AT 16:39:23 ON 30 AUG 2005

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FILE COVERS 1907 - 30 Aug 2005 VOL 143 ISS 10

FILE LAST UPDATED: 29 Aug 2005 (20050829/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE

L2 37 SEA FILE=REGISTRY ABB=ON (10043-35-3/BI OR 10193-36-9/BI OR 106-89-8/BI OR 1077-28-7/BI OR 109-64-8/BI OR 13464-58-9/BI OR 15116-88-8/BI OR 22541-53-3/BI OR 23713-48-6/BI OR 26658-45-7/BI OR 32449-92-6/BI OR 41058-93-9/BI OR 497-06-3/BI OR 67-64-1/BI OR 7439-92-1/BI OR 7439-97-6/BI OR 7440-02-0/BI OR 7440-21-3/BI OR 7440-22-4/BI OR 7440-36-0/BI OR 7440-38-2/BI OR 7440-39-3/BI OR 7440-42-8/BI OR 7440-43-9/BI OR 7440-47-3/BI OR 7440-48-4/BI OR 7440-50-8/BI OR 7440-53-1/BI OR 7440-66-6/BI OR 74913-72-7/BI OR 75-56-9/BI OR 77-86-1/BI OR 7782-49-2/BI OR 83968-02-9/BI OR 87-91-2/BI OR 87032-74-4/BI OR 9002-98-6/BI)

L3 2 SEA FILE=REGISTRY ABB=ON L2 AND PMS/CI

L5 1 SEA FILE=REGISTRY ABB=ON "AZIRIDINE, HOMOPOLYMER"/CN

L7 1 SEA FILE=REGISTRY ABB=ON "2-PROPEN-1-AMINE, HOMOPOLYMER"/CN

L9 2 SEA FILE=REGISTRY ABB=ON POLYETHYLENIMINE/CN

L11 1 SEA FILE=REGISTRY ABB=ON "2-PROPENOIC ACID, HOMOPOLYMER"/CN

L13 2 SEA FILE=REGISTRY ABB=ON PVA/CN

L14 1 SEA FILE=REGISTRY ABB=ON POLYPYRROLE/CN

L15 7 SEA FILE=REGISTRY ABB=ON L5 OR L7 OR L9 OR L11 OR L13 OR L14

L16 1 SEA FILE=REGISTRY ABB=ON "2-PROPENOIC ACID, 2-METHYL-, HOMOPOLYMER"/CN

L17 8 SEA FILE=REGISTRY ABB=ON L15 OR L16

L18 9 SEA FILE=REGISTRY ABB=ON L3 OR L17

L19 2 SEA FILE=REGISTRY ABB=ON L2 AND DIOL

L21 1 SEA FILE=REGISTRY ABB=ON L2 AND TARTAR?

L22 16 SEA FILE=REGISTRY ABB=ON L2 NOT (L18 OR L19 OR L21 OR 1/M)

L23 10 SEA FILE=REGISTRY ABB=ON L22 NOT 1/SI,AS,B

L24 9 SEA FILE=REGISTRY ABB=ON L23 NOT ACETONE

L25 13110 SEA FILE=HCAPLUS ABB=ON L18/D

L26 197 SEA FILE=HCAPLUS ABB=ON L25 (L) FUNCTIONAL?

L27 95537 SEA FILE=HCAPLUS ABB=ON L24

L28 8 SEA FILE=HCAPLUS ABB=ON L26 AND L27

L29 10 SEA FILE=HCAPLUS ABB=ON L26 AND (?TARTRAT? OR ?DIOL?)

L30 2 SEA FILE=HCAPLUS ABB=ON L26 AND ?GLYCIDOL?

L31 2 SEA FILE=HCAPLUS ABB=ON L26 AND SOLUTE?

L32 13 SEA FILE=HCAPLUS ABB=ON L26 AND (POLYOL# OR THIOL?)

L33 7 SEA FILE=HCAPLUS ABB=ON L26 AND WATER/SC,SX

L34 51 SEA FILE=HCAPLUS ABB=ON L26 AND (AS OR ARSENIC OR BA OR BARIUM OR CDMIU OR CD OR CR CHROMIUM OR HG OR MERCURY OR PB OR LEAD OR AG OR SILVER OR SE OR SELENIUM OR ACTINIDE? OR LANTHANIDE? OR CU OR COPPER OR NI NICKEL OR ZN OR ZINC OR CO OR COBALT OR BORON OR SI OR SB OR ANTIMONY OR SILICON OR B)

L35 20 SEA FILE=HCAPLUS ABB=ON L26 AND (NI OR NICKEL OR PB OR LEAD OR CR OR CHROMIUM OR AR OR CADMIUM)

L36 20 SEA FILE=REGISTRY ABB=ON L2 AND (1/M OR 1/AR OR 1/SI OR 1/B)

L37 1704323 SEA FILE=HCAPLUS ABB=ON L36

L38 19 SEA FILE=HCAPLUS ABB=ON L26 AND L37

L39 56 SEA FILE=HCAPLUS ABB=ON L34 OR L35 OR L38

L40 39 SEA FILE=HCAPLUS ABB=ON L39 AND (WATER? OR AQUEOUS? OR H2O)

L43 31278 SEA FILE=HCAPLUS ABB=ON L37 (L) REM/RL

L44 4 SEA FILE=HCAPLUS ABB=ON L26 AND (NI OR NICKEL OR PB OR LEAD OR CR OR CHROMIUM OR AR OR CADMIUM) (L) REM/RL

L45 4 SEA FILE=HCAPLUS ABB=ON L26 AND (AS OR ARSENIC OR BA OR BARIUM OR CDMIU OR CD OR CR CHROMIUM OR HG OR MERCURY OR PB OR LEAD OR AG OR SILVER OR SE OR SELENIUM OR ACTINIDE? OR LANTHANIDE? OR CU OR COPPER OR NI NICKEL OR ZN OR ZINC OR CO OR COBALT OR BORON OR SI OR SB OR ANTIMONY OR SILICON OR B) (L) REM/RL

L46 4 SEA FILE=HCAPLUS ABB=ON L43 AND L26
L47 4 SEA FILE=HCAPLUS ABB=ON (L44 OR L45 OR L46)
L48 7 SEA FILE=HCAPLUS ABB=ON L40 AND REMOV?
L49 37 SEA FILE=HCAPLUS ABB=ON (L28 OR L29 OR L30 OR L31 OR L32 OR
L33) OR L47 OR L48
L51 2 SEA FILE=HCAPLUS ABB=ON L40 AND (REMOV? OR SEPARAT?) (3A)METAL?
L52 37 SEA FILE=HCAPLUS ABB=ON L49 OR L51
L54 640 SEA FILE=HCAPLUS ABB=ON FUNCTIONAL? (5A) (POLYVINYLAMINE OR
POLYETHYLENIMINE OR POLYALLYLAMINE OR POLYPROPYLAMINE OR PVA
OR POLYVINYL ALCOHOL? OR POLYACRYLAMIDE OR POLYACRYLIC ACID OR
POLYMETHACRYLIC ACID OR POLYVINYLACETATE OR POLYPYRROLE)
L55 58 SEA FILE=HCAPLUS ABB=ON L37 AND L54
L56 26 SEA FILE=HCAPLUS ABB=ON L55 AND (WATER? OR AQUEOUS? OR H2O)
L57 10 SEA FILE=HCAPLUS ABB=ON L56 AND (REM/RL OR SEP/RL OR PUR/RL)
L58 45 SEA FILE=HCAPLUS ABB=ON L52 OR L57

=> D L58 BIB ABS IND HITSTR 1-45

L58 ANSWER 1 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:732739 HCAPLUS
TI Manufacture of crosslinked polyamine derivatives as scale-removing
components in hard surface cleaners
IN Becker, Heike; Degen, Hans-Juergen; Guzmann, Marcus; Gass, Tanja; Braig,
Volker
PA BASF Aktiengesellschaft, Germany
SO PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005073357	A2	20050811	WO 2005-EP794	20050127
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	DE 102004005010	A1	20050818	DE 2004-102004005010	20040130
PRAI	DE 2004-102004005010 A		20040130		

AB H2O-soluble or H2O-dispersible compds., useful as
additives in hard surface cleaners contributing to faster drying, reduced
spotting and film formation, dispersion of lime soap residues, reduction or
prevention of H2O condensation, etc., are manufactured by conversion
of (A) polyalkylenepolyamines, polyamidoamines, ethyleneimine-grafted
polyamidoamines and/or polyether amines with (B) halohydrin-,
glycidyl-, aziridinyl, isocyanato-functional or halo-containing crosslinking
agents and (C) monoethylenically unsatd. carboxylic acids, their salts,
esters, amides or nitriles, chlorocarboxylic acids or glycidyl-containing
acids, amides or esters, in H2O. For example, 350 g of Lupasol
HF (56% solution in H2O; mol. weight 25,000 g/mol) was diluted with 456
g H2O, heated to 70°, 18 mL of 50% aqueous solution of

polyethylene glycol (mol. weight 660) reaction product with epichlorohydrin was added as crosslinking agent, the mixture was stirred for 5 h at 70°, heated to 80° and 259.4 g acrylic acid was added dropwise over 3 h to give a viscous, yellow-orange solution of a title derivative containing 44.1% solids and having K value 23.1 (1% in H₂O). A solution of the derivative (0.5% in H₂O) was applied on the surface of ceramic tiles that were dried and wetted with H₂O to show smooth liquid film and no streaks.

IC ICM C11D001-30

CC 46-6 (Surface Active Agents and Detergents)

Section cross-reference(s): 35

ST polyethyleneimine crosslinking polyethylene glycol glycidyl ether hard surface cleaner; acrylic acid Michael addn crosslinked polyethyleneimine hard surface cleaner; tile ceramic wetting crosslinked polyethyleneimine acrylic acid adduct

IT Michael reaction

(agents, unsatd. carboxylic acids; manufacture of crosslinked polyethyleneimine derivs. as scale-removing components in hard surface cleaners)

IT Detergents

(cleaning compns.; manufacture of crosslinked polyethyleneimine derivs. as scale-removing components in hard surface cleaners)

IT Polyoxyalkylenes

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manufacture of crosslinked polyethyleneimine derivs. as scale-removing components in hard surface cleaners)

IT Polyamines

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyalkylene-, crosslinked; manufacture of crosslinked polyethyleneimine derivs. as scale-removing components in hard surface cleaners)

IT Crosslinking agents

(polyethylene glycol glycidyl ethers; manufacture of crosslinked polyethyleneimine derivs. as scale-removing components in hard surface cleaners)

IT 3039-83-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(Michael addition with crosslinked polyethyleneimine; manufacture of crosslinked polyethyleneimine derivs. as scale-removing components in hard surface cleaners)

IT 79-10-7DP, Acrylic acid, Michael adducts with polyethyleneimine reaction products with polyethylene glycol glycidyl ether 106-89-8DP, Epichlorohydrin, ethers with polyethylene glycol, reaction products with polyethyleneimine, acrylic acid Michael adducts 9002-98-6DP, Lupasol WF, reaction products with epoxy-functional polyethylene glycol, acrylic acid Michael adducts 15214-89-8DP, 2-Acrylamido-2-methylpropanesulfonic acid, Michael adducts with polyethyleneimine reaction products with polyethylene glycol glycidyl ether 25322-68-3DP, Polyethylene glycol, glycidyl ethers, reaction products with polyethyleneimine, acrylic acid Michael adducts

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

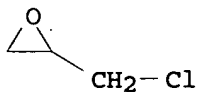
(crosslinked; manufacture of crosslinked polyethyleneimine derivs. as scale-removing components in hard surface cleaners)

IT 106-89-8DP, Epichlorohydrin, ethers with polyethylene glycol, reaction products with polyethyleneimine, acrylic acid Michael adducts 9002-98-6DP, Lupasol WF, reaction products with epoxy-functional polyethylene glycol, acrylic acid Michael adducts

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(crosslinked; manufacture of crosslinked polyethyleneimine derivs. as scale-removing components in hard surface cleaners)

RN 106-89-8 HCAPLUS

CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)



RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



L58 ANSWER 2 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:475066 HCAPLUS

DN 143:177680

TI Organosilicon Dendritic Networks in Porous Ceramics for Water Purification

AU Arkas, Michael; Tsiourvas, Dimitris; Paleos, Constantinos M.

CS Institute of Physical, NCSR "Demokritos", Attiki, Aghia Paraskevi, 15310, Greece

SO Chemistry of Materials (2005), 17(13), 3439-3444

CODEN: CMATEX; ISSN: 0897-4756

PB American Chemical Society

DT Journal

LA English

AB Triethoxysilyl-functionalized poly(propylene imine) (DAB32) dendrimer and poly(ethylene imine) (PEI5) hyperbranched polymer were conveniently prepared in chloroform and were subsequently allowed to impregnate porous ceramic filters. Following hydrolysis of triethoxysilyl moieties to Si-OH, polycondensation occurred affording networks containing Si-O-Si bridges with simultaneous formation of Si-O-M bridges resulting from the interaction of Si-OH with M-OH of the ceramic surface. In this manner, covalent binding of the organosilicon dendritic polymers is achieved at the ceramic surface. These porous ceramic filters, impregnated with organosilicon dendritic polymers, were employed for water purification. The concentration of polycyclic aromatic compds. in water was reduced to the level of a few ppb by continuous filtration of contaminated water through these filters. The filters loaded with pollutants were effectively regenerated by treatment with acetonitrile.

CC 57-2 (Ceramics)

Section cross-reference(s): 61

ST organosilicon dendritic polymer porous ceramic composite filter water purifn

IT Polycyclic compounds

RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC

(Process)
(aromatic, water contaminant; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT Filters
(ceramic, composites with organosilicon dendritic polymer; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT Dendritic polymers
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(composites with porous ceramics; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT Ceramics
(filters, composites with organosilicon dendritic polymer; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT Aromatic compounds
RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)
(polycyclic, water contaminant; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT Water purification
(preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT **9002-98-6DP, triethoxysilyl-functionalized**
25037-42-7DP, Poly(propylene imine), Triethoxysilyl-functionalized
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(composites with porous ceramics; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT 75-05-8, Acetonitrile, uses
RL: NUU (Other use, unclassified); USES (Uses)
(filter regeneration agent; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT 13463-67-7, Titania, properties
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(porous composites with organosilicon dendritic networks; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT 7732-18-5P, Water, preparation
RL: PUR (Purification or recovery); PREP (Preparation)
(preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT 85-01-8, Phenanthrene, processes 129-00-0, Pyrene, processes 135-19-3, β -Naphthol, processes
RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)
(water contaminant; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

IT **9002-98-6DP, triethoxysilyl-functionalized**
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(composites with porous ceramics; preparation and performance of organosilicon dendritic networks in porous ceramics for water purification)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N



RE.CNT 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 3 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:451445 HCAPLUS

DN 142:482505

TI Production of water-soluble carboxylic acid-functionalized polymers of improved purity

IN Harris, Milton J.; Kozlowski, Antoni; Guo, Lihong

PA Nektar Therapeutics AL, Corporation, USA

SO PCT Int. Appl., 46 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005047366	A1	20050526	WO 2004-US36850	20041105
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRAI US 2003-517794P P 20031106

AB A water-soluble nonpeptidic polymer functionalized with a carboxyl group is produced by (a) reacting an ester reagent RC(O)OR', where R' is a tertiary group, and R comprises a functional group X, with a water-soluble nonpeptidic polymer POLY-Y, where Y is a functional group which reacts with X to form a covalent bond, to form a tertiary ester of the polymer; (b) treating the tertiary ester of the polymer with a strong base in aqueous solution to form a carboxylate salt of the polymer, and (c) treating the carboxylate salt of the polymer with an inorg. acid in aqueous solution to convert the carboxylate salt to a carboxylic acid. The method provides water-soluble carboxylic acid-functionalized polymers in high yield and free from significant amts. of the starting polymers or reagents affecting the product stability. The water-soluble carboxylic acid-functionalized polymers can be used for conjugation with biol. active mols. by reacting the carboxylic acid groups of the polymers with functional groups (amine, hydroxyl, thiol) of the biol. active mols.

IC ICM C08G065-332

CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 63

ST carboxylic acid functionalized polymer biol active mol conjugate;
contaminant free carboxy terminated polyethylene glycol

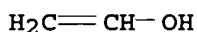
IT Polyphosphazenes

- Polysaccharides, preparation
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(carboxy-containing derivs.; production of water-soluble carboxylic acid-functionalized polymers of improved purity)
- IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(carboxy-terminated; production of water-soluble carboxylic acid-functionalized polymers of improved purity)
- IT Acids, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(inorg.; production of water-soluble carboxylic acid-functionalized polymers of improved purity)
- IT Polyamines
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(polyethylene-, N-acyl, carboxy-containing derivs.; production of water-soluble carboxylic acid-functionalized polymers of improved purity)
- IT Drug delivery systems
(production of water-soluble carboxylic acid-functionalized polymers of improved purity)
- IT Alkali metal hydroxides
Bases, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(production of water-soluble carboxylic acid-functionalized polymers of improved purity)
- IT Polymers, preparation
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(water-soluble; production of water-soluble carboxylic acid-functionalized polymers of improved purity)
- IT 26124-68-5DP, carboxy-containing derivs.
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(assumed monomers; production of water-soluble carboxylic acid-functionalized polymers of improved purity)
- IT 9002-89-5DP, Poly(vinyl alcohol), carboxy-containing derivs.
9003-01-4DP, Poly(acrylic acid), carboxy-containing derivs.
9003-39-8DP, Polyvinylpyrrolidone, carboxy-containing derivs. 25322-68-3DP, Poly(ethylene glycol), carboxy-terminated 26009-03-ODP, Poly[oxy(1-oxo-1,2-ethanedyl)], carboxy-containing derivs. 28902-82-1DP, Poly(N-acryloylmorpholine), carboxy-containing derivs. 39927-08-7P 67665-18-3P
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(production of water-soluble carboxylic acid-functionalized polymers of improved purity)
- IT 1310-73-2, Sodium hydroxide, reactions 5292-43-3, tert-Butyl bromoacetate 7647-01-0, Hydrochloric acid, reactions 7664-38-2, Phosphoric acid, reactions 7664-93-9, Sulfuric acid, reactions 7697-37-2, Nitric acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(production of water-soluble carboxylic acid-functionalized polymers of improved purity)
- IT 9002-89-5DP, Poly(vinyl alcohol), carboxy-containing derivs.
9003-01-4DP, Poly(acrylic acid), carboxy-containing derivs.
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(production of water-soluble carboxylic acid-functionalized polymers of improved purity)

of improved purity)
 RN 9002-89-5 HCAPLUS
 CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

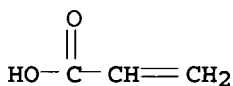
CRN 557-75-5
 CMF C2 H4 O



RN 9003-01-4 HCAPLUS
 CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
 CMF C3 H4 O2



RE.CNT. 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 4 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2005:441019 HCAPLUS
 DN 143:133782
 TI Synthesis of End-Functional Poly(vinyl acetate) by Cobalt-Mediated Radical Polymerization
 AU Debuigne, Antoine; Caille, Jean-Raphael; Jerome, Robert
 CS Center for Education and Research on Macromolecules (CERM), University of Liege, Liege, 4000, Belg.
 SO Macromolecules (2005), 38(13), 5452-5458
 CODEN: MAMOBX; ISSN: 0024-9297
 PB American Chemical Society
 DT Journal
 LA English
 AB Poly(vinyl acetate) (PVAc) chains prepared by cobalt-mediated radical polymerization in the presence of cobalt(II) acetylacetonate (Co(acac)2) were quenched by radical scavengers, such as thiol compds. and nitroxides, to displace the covalently bonded Co(acac)2 moiety and to end-cap them with a reactive group. The cobalt complex was completely removed by filtration, as confirmed by the induction coupled plasma (ICP) anal. of the polymer before and after treatment. Growing poly(vinyl acetate) chains can be end-functionalized either by addition of an appropriately functionalized nonpolymerizable olefin or by displacement of the Co(acac)2 moiety by a functionalized nitroxide. This strategy allows PVAc to be synthesized with a predictable mol. weight, a reasonably low polydispersity (Mw/Mn .apprx. 1.1-1.3), and a functional @ end group, e.g., hydroxyl and epoxy.
 CC 35-8 (Chemistry of Synthetic High Polymers)
 ST end functional polyvinyl acetate cobalt catalyst radical polymn;
 thiol functional polyvinyl acetate cobalt catalyst radical polymn;
 nitroxide functional polyvinyl acetate cobalt catalyst radical polymn

IT Polymerization catalysts
(radical, cobalt bis(acetylacetonate); preparation of end-functional
poly(vinyl acetate) by cobalt-mediated radical polymerization)

IT 9003-20-7P, Poly(vinyl acetate)
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and end functionalization of)

IT 14024-48-7, Cobalt bis(acetylacetonate)
RL: CAT (Catalyst use); USES (Uses)
(preparation of end-functional poly(vinyl acetate) by cobalt-mediated
radical polymerization)

IT 107-03-9DP, 1-Propanethiol, reaction products with poly(vinyl acetate)
625-38-7DP, 3-Butenoic acid, reaction products with poly(vinyl acetate)
627-27-0DP, 3-Buten-1-ol, reaction products with poly(vinyl acetate)
2564-83-2DP, TEMPO, reaction products with poly(vinyl acetate)
9003-20-7DP, Poly(vinyl acetate), end functionalized
derivs. 10353-53-4DP, 1,2-Epoxy-5-hexene, reaction products with
poly(vinyl acetate)
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of end-functional poly(vinyl acetate) by
cobalt-mediated radical polymerization)

IT 9003-20-7DP, Poly(vinyl acetate), end functionalized
derivs.
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of end-functional poly(vinyl acetate) by
cobalt-mediated radical polymerization)

RN 9003-20-7 HCAPLUS

CN Acetic acid ethenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 108-05-4

CMF C4 H6 O2

 $\text{AcO}-\text{CH}=\text{CH}_2$

RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 5 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:429450 HCAPLUS

DN 142:465474

TI Acrylic-acid-based homopolymers modified with taurine for water treatment.

IN Guzmann, Marcus; Buechner, Karl-Heinz; Baum, Pia; Brodt, Gregor

PA BASF Aktiengesellschaft, Germany

SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005044868	A1	20050519	WO 2004-EP12542	20041105
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,			

TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG

DE 10352457 A1 20050609 DE 2003-10352457 20031107

PRAI DE 2003-10352457 A 20031107

AB (Meth)acrylic acid copolymers prepared by radical polymerization of monomers at 100
- 200° followed by functionalizing with aminoalkyl sulfonic acid
derivs. at 140 250° is used for treating water, preventing scale
during the extraction of oil, and for preventing corrosion in aqueous systems.

IC ICM C08F008-32

ICS C02F005-12; C08F020-06

CC 46-6 (Surface Active Agents and Detergents)

Section cross-reference(s): 61

ST methacrylic acid copolymer treating water preventing scale extn oil;
radical polymn monomer functionalizing aminoalkyl sulfonic acid copolymer
manuf

IT Corrosion prevention

Petroleum recovery

Water purification

((meth)acrylic acid copolymers prepared by radical polymerization and
functionalizing with aminoalkyl sulfonic acid derivs. for treating
water)

IT Sulfonic acids, uses

RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)

(aminoalkyl derivs., reaction products with acrylic acid homopolymer;
(meth)acrylic acid copolymers prepared by radical polymerization and
functionalizing with aminoalkyl sulfonic acid derivs. for treating
water)

IT 107-35-7DP, Taurine, reaction products with acrylic acid homopolymer
9003-01-4DP, Acrylic acid homopolymer, reaction products with
taurine

RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)

((meth)acrylic acid copolymers prepared by radical polymerization and
functionalizing with aminoalkyl sulfonic acid derivs. for
treating water)

IT 9003-01-4DP, Acrylic acid homopolymer, reaction products with
taurine

RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)

((meth)acrylic acid copolymers prepared by radical polymerization and
functionalizing with aminoalkyl sulfonic acid derivs. for
treating water)

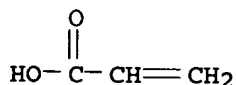
RN 9003-01-4 HCAPLUS

CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 6 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:428122 HCAPLUS

DN 142:472629

TI Ink-jet printing sheet and ink receiving layer composition for it

IN Inoue, Masato; Matsuo, Masatoshi; Tanaka, Kazuyoshi

PA Dainippon Ink and Chemicals, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005125515	A2	20050519	JP 2003-360530	20031021
PRAI	JP 2003-360530		20031021		
AB	The sheet contains (A) a polymer having ≥ 1 group selected from quaternary ammonium salt, OH, acetoacetyl, carboxylic acid (salt), sulfonic acid (salt). and (B) a silane coupling agent. The sheet shows good ink solvent absorption, water resistance, and gives glossy images.				
IC	ICM B41M005-00				
	ICS B41J002-01				
CC	74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				
ST	ink jet printing sheet silane coupling agent; polymer quaternary ammonium salt hydroxy group printing sheet				
IT	Acrylic polymers, uses				
	RL: TEM (Technical or engineered material use); USES (Uses)				
	(cationic; ink-jet printing sheet containing silane coupling agent and polymer with functional group)				
IT	Polyamides, uses				
	Polyamines				
	RL: TEM (Technical or engineered material use); USES (Uses)				
	(epichlorohydrin derivs.; ink-jet printing sheet containing silane coupling agent and polymer with functional group)				
IT	Ink-jet recording sheets				
	(ink-jet printing sheet containing silane coupling agent and polymer with functional group)				
IT	Polyurethanes, uses				
	RL: TEM (Technical or engineered material use); USES (Uses)				
	(ink-jet printing sheet containing silane coupling agent and polymer with functional group)				
IT	Amidines				
	RL: TEM (Technical or engineered material use); USES (Uses)				
	(vinyl derivs., polymers; ink-jet printing sheet containing silane coupling agent and polymer with functional group)				
IT	919-30-2, 3-Aminopropyltriethoxysilane 27668-52-6				
	RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)				
	(coupling agent; ink-jet printing sheet containing silane coupling agent and polymer with functional group)				
IT	106-89-8D, Epichlorohydrin, reaction products with polyamides				
	9002-98-6D, quaternary ammonium salts 26062-79-3,				
	Poly(diallyldimethylammonium chloride) 26336-38-9D, Poly(vinylamine),				
	quaternary ammonium salts 26591-12-8D, Dicyandiamide-formaldehyde				
	copolymer, quaternary ammonium salts 30551-89-4D,				
	Polyallylamine, quaternary ammonium salts 39290-68-1, Poly(vinyl				

alcohol) acetoacetate

RL: TEM (Technical or engineered material use); USES (Uses)

(ink-jet printing sheet containing silane coupling agent and polymer with functional group)

IT 106-89-8D, Epichlorohydrin, reaction products with polyamides

9002-98-6D, quaternary ammonium salts 30551-89-4D,

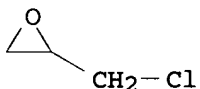
Polyallylamine, quaternary ammonium salts

RL: TEM (Technical or engineered material use); USES (Uses)

(ink-jet printing sheet containing silane coupling agent and polymer with functional group)

RN 106-89-8 HCAPLUS

CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)



RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



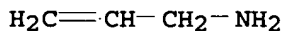
RN 30551-89-4 HCAPLUS

CN 2-Propen-1-amine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-11-9

CMF C3 H7 N



L58 ANSWER 7 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:160874 HCAPLUS

DN 142:240906

TI Functionalized water-soluble polymers for binding to solutes in aqueous solutions

IN Smith, Barbara F.; Robison, Thomas W.

PA USA

SO U.S. Pat. Appl. Publ., 27 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

Applicants

PI US 2005043493 A1 20050224 US 2003-646378 20030822
PRAI US 2003-646378 20030822
AB A functionalized polymer is for binding a dissolved mol. in an aq
. solution The polymer has a backbone polymer to which ≥ 1 functional
groups are covalently linked. The backbone polymer can be
polyethylenimine, polyvinylamine, polyallylamine, or polypropylamine.
These polymers are generally water-soluble, but can be insol. when
crosslinked. The functional group can be diol derivs.,
polyol derivs., thiol and dithiol derivs., guest-host
groups, affinity groups, beta-diphosphonic acids, and beta-diamides.
IC ICM C08F002-00
INCL 526061000
CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 61
ST polyethylenimine functionalized binding metal
solute
IT Sequestering agents
(functionalized water-soluble polymers for binding/
removing solutes from aqueous solns.)
IT Actinides
Rare earth metals, processes
RL: REM (Removal or disposal); PROC (Process)
(functionalized water-soluble polymers for binding/
removing solutes from aqueous solns.)
IT 75-56-9DP, Propylene oxide, reaction products with
polyethyleneimine 77-86-1DP, Tris(hydroxymethyl)aminomethane, reaction
products with polyethyleneimine 87-91-2DP, reaction products with
polyethyleneimine 106-89-8DP, Epichlorohydrin, reaction products
with polyethyleneimine 109-64-8DP, 1,3-Dibromopropane, reaction
products with polyethyleneimine 1077-28-7DP, dl-Thioctic acid,
reaction products with polyethyleneimine 9002-98-6DP,
functionalized 26658-45-7DP, Aziridine-glycidol
copolymer, functionalized 32449-92-6DP,
D-Glucurono-6,3 lactone, reaction products with polyethyleneimine
74913-72-7DP, Polymin P, functionalized
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical
process); PYP (Physical process); PREP (Preparation); PROC (Process)
(functionalized water-soluble polymers for binding/
removing solutes from aqueous solns.)
IT 83968-02-9P 87032-74-4P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)
(functionalized water-soluble polymers for binding/
removing solutes from aqueous solns.)
IT 10043-35-3, Boric Acid, processes 10193-36-9, Silicic
Acid 13464-58-9, Arsenous acid
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); PROC (Process)
(functionalized water-soluble polymers for binding/
removing solutes from aqueous solns.)
IT 67-64-1, Acetone, reactions 497-06-3, 1-Butene-3,4-diol
RL: RCT (Reactant); RACT (Reactant or reagent)
(functionalized water-soluble polymers for binding/
removing solutes from aqueous solns.)
IT 7439-92-1, Lead, processes 7439-97-6,
Mercury, processes 7440-02-0, Nickel,
processes 7440-21-3, Silicon, processes
7440-22-4, Silver, processes 7440-36-0,
Antimony, processes 7440-38-2, Arsenic, processes
7440-39-3, Barium, processes 7440-42-8,

Boron, processes 7440-43-9, Cadmium, processes 7440-47-3, Chromium, processes 7440-48-4, Cobalt, processes 7440-50-8, Copper, processes 7440-53-1, Europium, processes 7440-66-6, Zinc, processes 7782-49-2, Selenium, processes 15116-88-8, Americium 234, processes 22541-53-3, processes 23713-48-6, processes 41058-93-9, processes RL: REM (Removal or disposal); PROC (Process)

(functionalized water-soluble polymers for binding/
removing solutes from aqueous solns.)

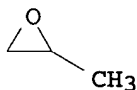
IT 75-56-9DP, Propylene oxide, reaction products with polyethyleneimine 106-89-8DP, Epichlorohydrin, reaction products with polyethyleneimine 109-64-8DP, 1,3-Dibromopropane, reaction products with polyethyleneimine 1077-28-7DP, dl-Thioctic acid, reaction products with polyethyleneimine 9002-98-6DP, functionalized 26658-45-7DP, Aziridine-glycidol copolymer, functionalized 32449-92-6DP, D-Glucurono-6,3 lactone, reaction products with polyethyleneimine 74913-72-7DP, Polymin P, functionalized

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); PREP (Preparation); PROC (Process)

(functionalized water-soluble polymers for binding/
removing solutes from aqueous solns.)

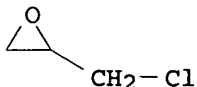
RN 75-56-9 HCAPLUS

CN Oxirane, methyl- (9CI) (CA INDEX NAME)



RN 106-89-8 HCAPLUS

CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)



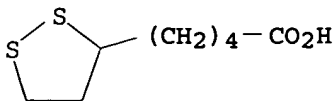
RN 109-64-8 HCAPLUS

CN Propane, 1,3-dibromo- (8CI, 9CI) (CA INDEX NAME)



RN 1077-28-7 HCAPLUS

CN 1,2-Dithiolane-3-pentanoic acid (9CI) (CA INDEX NAME)



RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



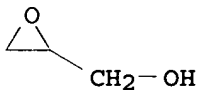
RN 26658-45-7 HCAPLUS

CN Oxiranemethanol, polymer with aziridine (9CI) (CA INDEX NAME)

CM 1

CRN 556-52-5

CMF C3 H6 O2



CM 2

CRN 151-56-4

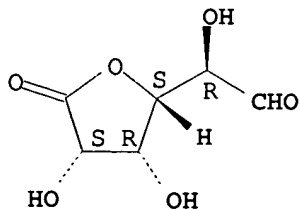
CMF C2 H5 N



RN 32449-92-6 HCAPLUS

CN D-Glucuronic acid, γ -lactone (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 74913-72-7 HCAPLUS

CN Polymin P (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

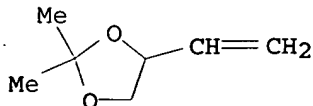
IT 83968-02-9P 87032-74-4P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(functionalized water-soluble polymers for binding/
removing solutes from aqueous solns.)

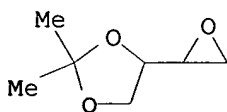
RN 83968-02-9 HCAPLUS

CN 1,3-Dioxolane, 4-ethenyl-2,2-dimethyl- (9CI) (CA INDEX NAME)



RN 87032-74-4 HCAPLUS

CN 1,3-Dioxolane, 2,2-dimethyl-4-oxiranyl- (9CI) (CA INDEX NAME)

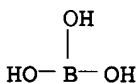


IT 10043-35-3, Boric Acid, processes 10193-36-9, Silicic Acid

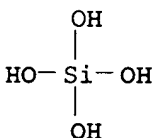
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)

(functionalized water-soluble polymers for binding/
removing solutes from aqueous solns.)

RN 10043-35-3 HCAPLUS

CN Boric acid (H₃BO₃) (6CI, 8CI, 9CI) (CA INDEX NAME)

RN 10193-36-9 HCAPLUS

CN Silicic acid (H₄SiO₄) (8CI, 9CI) (CA INDEX NAME)

IT 7439-92-1, Lead, processes 7439-97-6, Mercury, processes 7440-02-0, Nickel, processes 7440-21-3, Silicon, processes 7440-22-4, Silver, processes 7440-36-0, Antimony, processes 7440-39-3, Barium, processes 7440-42-8, Boron, processes 7440-43-9, Cadmium, processes 7440-47-3, Chromium, processes 7440-48-4, Cobalt, processes 7440-50-8, Copper, processes 7440-53-1, Europium, processes 7440-66-6, Zinc, processes 7782-49-2, Selenium, processes 15116-88-8, Americium 234, processes 22541-53-3,

processes 23713-48-6, processes 41058-93-9, processes
RL: REM (Removal or disposal); PROC (Process)
(functionalized water-soluble polymers for binding/
removing solutes from aqueous solns.)

RN 7439-92-1 HCAPLUS
CN Lead (8CI, 9CI) (CA INDEX NAME)

Pb

RN 7439-97-6 HCAPLUS
CN Mercury (8CI, 9CI) (CA INDEX NAME)

Hg

RN 7440-02-0 HCAPLUS
CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

RN 7440-21-3 HCAPLUS
CN Silicon (7CI, 8CI, 9CI) (CA INDEX NAME)

Si

RN 7440-22-4 HCAPLUS
CN Silver (8CI, 9CI) (CA INDEX NAME)

Ag

RN 7440-36-0 HCAPLUS
CN Antimony (8CI, 9CI) (CA INDEX NAME)

Sb

RN 7440-39-3 HCAPLUS
CN Barium (8CI, 9CI) (CA INDEX NAME)

Ba

RN 7440-42-8 HCAPLUS
CN Boron (8CI, 9CI) (CA INDEX NAME)

B

RN 7440-43-9 HCAPLUS
CN Cadmium (8CI, 9CI) (CA INDEX NAME)

Cd

RN 7440-47-3 HCAPLUS
CN Chromium (8CI, 9CI) (CA INDEX NAME)

Cr

RN 7440-48-4 HCAPLUS
CN Cobalt (8CI, 9CI) (CA INDEX NAME)

Co

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RN 7440-53-1 HCAPLUS
CN Europium (8CI, 9CI) (CA INDEX NAME)

Eu

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

RN 7782-49-2 HCAPLUS
CN Selenium (8CI, 9CI) (CA INDEX NAME)

Se

RN 15116-88-8 HCAPLUS
CN Americium, isotope of mass 234 (8CI, 9CI) (CA INDEX NAME)

²³⁴Am

RN 22541-53-3 HCAPLUS
CN Cobalt, ion (Co2+) (8CI, 9CI) (CA INDEX NAME)

Co²⁺

RN 23713-48-6 HCAPLUS

CN Antimony, ion (Sb³⁺) (8CI, 9CI) (CA INDEX NAME)Sb³⁺

RN 41058-93-9 HCAPLUS

CN Antimony, ion (Sb⁴⁺) (9CI) (CA INDEX NAME)Sb⁴⁺

L58 ANSWER 8 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:69261 HCAPLUS

DN 142:416407

TI Adsorption of Co(II) by a carboxylate-functionalized
polyacrylamide grafted lignocellulosics

AU Shibi, I. G.; Anirudhan, T. S.

CS Department of Chemistry, University of Kerala, Trivandrum, 695 581, India

SO Chemosphere (2005), 58(8), 1117-1126

CODEN: CMSHAF; ISSN: 0045-6535

PB Elsevier B.V.

DT Journal

LA English

AB A new adsorbent (PGBS-COOH) with carboxylate functional group at the chain end was synthesized by graft copolymn. of acrylamide onto banana stalk, BS (*Musa Paradisiaca*) using ferrous ammonium sulfate/H₂O₂ redox initiator system. The efficiency of the adsorbent in the removal of Co(II) from **water** was studied using batch adsorption technique. The adsorbent exhibits very high adsorption potential for Co(II) and under optimum conditions >99% removal was achieved. The maximum adsorption capacity was observed at pH 6.5-9.0. The equilibrium isotherm data were analyzed using 3 isotherm models, Langmuir, Freundlich and Scatchard, to determine the best fit equation for the sorption of Co(II) on the PGBS-COOH. A comparative study with a com. cation exchanger, Ceralite IRC-50, with carboxylate functional group showed that PGBS-COOH is 2.8 times more effective compared to Ceralite IRC-50 at 30°. Synthetic nuclear power plant coolant **water** samples were also treated by the adsorbent to demonstrate its efficiency in removing Co(II) from **water** in the presence of other metal ions. Acid regeneration was tried for several cycles to recover the adsorbed metal ions and also to restore the sorbent to its original state.

CC 60-3 (Waste Treatment and Disposal)

Section cross-reference(s): 61, 71

ST adsorption cobalt carboxylate functionalized

polyacrylamide grafted lignocellulosic

IT Adsorbents

Musa paradisiaca

Nuclear power plants

(adsorption of cobalt by carboxylate-functionalized

polyacrylamide grafted lignocellulosics)

IT Wastewater treatment

Water purification

(adsorption; adsorption of cobalt by carboxylate-functionalized

polyacrylamide grafted lignocellulosics)

IT Solid wastes
(banana stalk; adsorption of cobalt by carboxylate-
functionalized polyacrylamide grafted
lignocellulosics)

IT Wastewater treatment
Water purification
(cation exchange; adsorption of cobalt by carboxylate-
functionalized polyacrylamide grafted
lignocellulosics)

IT Carboxyl group
(graft polymerized banana stalk containing; adsorption of cobalt by
carboxylate-functionalized polyacrylamide grafted
lignocellulosics)

IT 9002-29-3, Amberlite IRC 50
RL: NUU (Other use, unclassified); USES (Uses)
(adsorption of cobalt by carboxylate-functionalized
polyacrylamide grafted lignocellulosics)

IT 7440-48-4, Cobalt, processes
RL: REM (Removal or disposal); PROC (Process)
(adsorption of cobalt by carboxylate-functionalized
polyacrylamide grafted lignocellulosics)

IT 9003-05-8P, PolyAcrylamide
RL: NUU (Other use, unclassified); PNU (Preparation, unclassified); PREP
(Preparation); USES (Uses)
(banana stalk graft polymerized; adsorption of cobalt by carboxylate-
functionalized polyacrylamide grafted
lignocellulosics)

IT 7440-48-4, Cobalt, processes
RL: REM (Removal or disposal); PROC (Process)
(adsorption of cobalt by carboxylate-functionalized
polyacrylamide grafted lignocellulosics)

RN 7440-48-4 HCAPLUS
CN Cobalt (8CI, 9CI) (CA INDEX NAME)

Co

RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 9 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:62948 HCAPLUS
DN 142:416381
TI Integrated removal of nonionic surfactant and cobalt(II) from plating
rinse water
AU Snukiskis, J.; Kauspediene, D.
CS Institute of Chemistry, Vilnius, 01108, Lithuania
SO Colloids and Surfaces, A: Physicochemical and Engineering Aspects (2005),
253(1-3), 27-32
CODEN: CPEAEH; ISSN: 0927-7757
PB Elsevier B.V.
DT Journal
LA English
AB Cosorption of nonionic surfactant Lutensol AO-10 (oxyethylated higher
fatty alcs.) and Co(II) by the H form of polyacrylic
acid-functionalized cation exchanger Purolite C 106 was
studied to establish the adequacy of this resin for the simultaneous
removal of Co(II) and nonionic surfactant from plating rinse water

prior to recycling. Kinetics of the sorption of AO-10, Co(II) and products of their interaction is controlled by the intraparticle diffusion in acidic (pH 5) and alkaline media (pH 8). With a decrease in the influent acidity from pH 5 to 8 the rate of intraparticle diffusion of AO-10 increases, although the equilibrium sorption decreases. The effect of Co(II) results in a decrease in the rate of intraparticle diffusion and equilibrium sorption of AO-10 at pH 5, although it leads to an increase in the corresponding parameters at pH 8. Unlike AO-10, the Co(II) equilibrium sorption increases on decreasing the influent acidity from pH 5 to 8. The effect of AO-10 results in an increase in the rate of the intraparticle diffusion and the equilibrium sorption of Co(II) at the 2 pH studied. The performance of the column, packed with the H form of Purolite C 106, is better with respect to AO-10 than that with respect to Co(II). The effect of AO-10 promotes the removal of Co(II), whereas the effect of Co(II) interferes with the removal of AO-10. The hydrogen form of Purolite C 106 cation exchanger is suggested to be applicable for the simultaneous and, therefore, economic removal of nonionic surfactant and Co(II) from Co plating rinse water prior to recycling, preventing the environmental contamination.

CC 60-2 (Waste Treatment and Disposal)
Section cross-reference(s): 61, 72

ST nonionic surfactant cobalt plating rinse water

IT Alcohols, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(C13-15, ethoxylated; integrated removal of nonionic surfactant and cobalt from plating rinse water)

IT Wastewater treatment
(cation exchange; integrated removal of nonionic surfactant and cobalt from plating rinse water)

IT Electrodeposition
(integrated removal of nonionic surfactant and cobalt from plating rinse water)

IT Surfactants
(nonionic; integrated removal of nonionic surfactant and cobalt from plating rinse water)

IT Wastewater treatment
(reclamation; integrated removal of nonionic surfactant and cobalt from plating rinse water)

IT Wastewater treatment
(sorption; integrated removal of nonionic surfactant and cobalt from plating rinse water)

IT 144046-63-9, Purolite C 106
RL: NUU (Other use, unclassified); USES (Uses)
(integrated removal of nonionic surfactant and cobalt from plating rinse water)

IT 7440-48-4, Cobalt, processes
RL: REM (Removal or disposal); PROC (Process)
(integrated removal of nonionic surfactant and cobalt from plating rinse water)

IT 7440-48-4, Cobalt, processes
RL: REM (Removal or disposal); PROC (Process)
(integrated removal of nonionic surfactant and cobalt from plating rinse water)

RN 7440-48-4 HCAPLUS

CN Cobalt (8CI, 9CI) (CA INDEX NAME)

Co

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 10 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:1042048 HCAPLUS
DN 142:360526
TI Development of functionalized superparamagnetic iron oxide nanoparticles
for interaction with human cancer cells
AU Petri-Fink, A.; Chastellain, M.; Juillerat-Jeanneret, L.; Ferrari, A.;
Hofmann, H.
CS Department of Materials Science, Laboratory of Powder Technology, EPFL,
Lausanne, CH-1015, Switz.
SO Biomaterials (2005), 26(15), 2685-2694
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier Ltd.
DT Journal
LA English
AB Our goal is to develop, characterize and optimize functionalized super
paramagnetic iron oxide nanoparticles (SPION) demonstrating the capacity
to be internalized by human cancer cells. SPION (mean diameter 9 nm) were
coated with various ratios to iron oxide of either polyvinyl alc. (PVA),
carboxylate-functionalized PVA, thiol-functionalized PVA and
amino-functionalized PVA (amino-PVA). The interaction with cells and
cytotoxicity of the SPION preps. were determined using human melanoma cells.
From the four functionalized SPION preps., only the amino-PVA SPION
demonstrated the capacity to interact with, and were not cytotoxic to,
human melanoma cells. This interaction with melanoma cells was dependent
on the amino-PVA to iron oxide ratio, was an active and saturable
mechanism displayed by all cells in a culture. These functionalized SPION
were characterized by TEM and electrophoretic mobility. The phys.
comportment of SPION changed at specific PVAs to iron oxide ratios, and
this ratio corresponded to the ratio of optimal interaction with cells.
In conclusion, the successful development of functionalized SPION
displaying potential cellular uptake by human cancer cells depends both on
the presence of amino groups on the coating shell of the nanoparticles and
of its ratio to the amount of iron oxide.
CC 63-5 (Pharmaceuticals)
ST superparamagnetic iron oxide polyvinyl alc nanoparticle
IT Coating materials
Human
Size distributions
(development of functionalized superparamagnetic iron oxide
nanoparticles for interaction with human cancer cells)
IT Drug delivery systems
(nanoparticles; development of functionalized superparamagnetic iron
oxide nanoparticles for interaction with human cancer cells)
IT 1309-37-1, Iron oxide, biological studies 1317-61-9, Iron oxide,
biological studies 9002-89-5, Mowiol 9002-89-5D, Polyvinyl
alcohol, carboxylated and/or thiolated 29499-22-7, Vinyl
alcohol-vinyl amine copolymer
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES
(Uses)
(development of functionalized superparamagnetic iron oxide
nanoparticles for interaction with human cancer cells)
IT 9002-89-5D, Polyvinyl alcohol, carboxylated and/or
thiolated
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES
(Uses)
(development of functionalized superparamagnetic iron oxide

nanoparticles for interaction with human cancer cells)
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O

 $\text{H}_2\text{C}=\text{CH}-\text{OH}$

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 11 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:412849 HCAPLUS

DN 140:402816

TI Sorbent material having a covalently attached perfluorinated surface with functional groups

IN Zubov, Vitali Pavlovich; Plobner, Lutz; Kapoustine, Dimitri Valerjewich; Balayan, Hamlet; Muydinov, Makhmud Rakhmotovich; Brem, Gottfried; Leiser, Robert-Matthias

PA Nexttec G.m.b.H., Germany

SO PCT Int. Appl., 27 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004041428	A2	20040521	WO 2003-EP12517	20031110
	WO 2004041428	A3	20040715		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	EP 1558376	A2	20050803	EP 2003-785640	20031110
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
PRAI	EP 2002-24885	A	20021108		
	US 2003-475785P	P	20030605		
	WO 2003-EP12517	W	20031110		

AB The present invention relates to a sorbent material having a solid support substantially modified with a fluorinated polymer coating which is covalently attached to the support and the fluorinated polymer coating is containing at least one functional group, methods of obtaining the sorbent material, the use of these materials for separation of substances, a chromatog. column or cartridge at least partially filled with the sorbent material of the invention, a membrane-like device comprising the sorbent material of the invention, a device comprising the sorbent material of the invention in loose form as well as a miniaturized device comprising the sorbent material.

IC ICM B01J020-00
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 3, 48, 80
ST sorbent covalent ceramer perfluorinated surface DNA purifn test kit;
chromatog stationary phase porous hydrophobic fluoropolymer coating
protein sepn
IT Silica gel, reactions
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); RCT (Reactant); TEM (Technical or engineered material use); PROC
(Process); RACT (Reactant or reagent); USES (Uses)
(Na+ - stabilized; sorbent material having covalently attached
fluorinated or perfluorinated surface with functional groups)
IT Cell
(bacteria or tissues; sorbent material having covalently attached
fluorinated or perfluorinated surface with functional groups)
IT Pore size distribution
(bimodal or multi-modal; sorbent material having covalently attached
fluorinated or perfluorinated surface with functional groups)
IT Organic compounds, preparation
RL: PEP (Physical, engineering or chemical process); PUR (Purification or
recovery); PYP (Physical process); PREP (Preparation); PROC (Process)
(biol., separation and purification of; sorbent material having covalently
attached fluorinated or perfluorinated surface with functional groups)
IT Bond
(carbon-carbon, bonds to "coated" ceramer; sorbent material having
covalently attached fluorinated or perfluorinated surface with
functional groups)
IT Bond
(carbon-oxygen; sorbent material having covalently attached fluorinated
or perfluorinated surface with functional groups)
IT Containers
(cartridges, chromatog. column with sorbent of invention; sorbent
material having covalently attached fluorinated or perfluorinated
surface with functional groups)
IT Fluoropolymers, preparation
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
PROC (Process); RACT (Reactant or reagent)
(coatings and homo- and co-polymer ceramers with porous
supports; sorbent material having covalently attached fluorinated or
perfluorinated surface with functional groups)
IT Chromatographs
(columns; sorbent material having covalently attached fluorinated or
perfluorinated surface with functional groups)
IT Membranes, nonbiological
(composite, sorbent imbedded in; sorbent material having covalently
attached fluorinated or perfluorinated surface with functional groups)
IT Eubacteria
(cytolysis of, for DNA sequencing; sorbent material having covalently
attached fluorinated or perfluorinated surface with functional groups)
IT Pore size
(diameter and volume, tailored; sorbent material having covalently attached
fluorinated or perfluorinated surface with functional groups)
IT Alcohols, preparation
Ketones, preparation
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(fluorine-containing copolymers; sorbent material having covalently
attached fluorinated or perfluorinated surface with functional groups)
IT Monomers

- RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent) (fluoro; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Coating materials
(hydrophobic, onto silica; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Buffers
Test tubes
Vials
(in kit; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Gamma ray
(irradiation, radical initiation by; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Amides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(linear, surface functional groups on modified support; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Polyamides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(membrane with imbedded sorbent; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Reactors
(microreactors, containing sorbent of invention; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Porous materials
(monolithic membrane-type; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Thickness
(of polymer layer in pores, specified 1-25 nm; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Magnetic separation
(of sorbent particles; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Stability
(of sorbents against hydrolysis; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Porous materials
(particulate; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Polymerization kinetics
(photochem., radical, using γ -rays; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Glass, reactions
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); RCT (Reactant); TEM (Technical or engineered material use); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(porous, macroporous, MPS 1150GCh; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Particles
(porous; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT UV radiation
X-ray
(radical initiation by; sorbent material having covalently attached

- fluorinated or perfluorinated surface with functional groups)
- IT Silica gel, preparation
 - RL: SPN (Synthetic preparation); PREP (Preparation)
(reaction products; sorbent material having covalently attached
fluorinated or perfluorinated surface with functional groups)
- IT Glass, uses
 - RL: TEM (Technical or engineered material use); USES (Uses)
(reactor vessel; sorbent material having covalently attached
fluorinated or perfluorinated surface with functional groups)
- IT Acrylic polymers, preparation
 - RL: SPN (Synthetic preparation); PREP (Preparation)
(silicate-; sorbent material having covalently attached fluorinated or
perfluorinated surface with functional groups)
- IT Ceramers
 - Chromatographic stationary phases
 - Functional groups
 - Preparative liquid chromatography
 - Sorbents
 - Test kits
(sorbent material having covalently attached fluorinated or
perfluorinated surface with functional groups)
- IT Proteins
 - RL: PEP (Physical, engineering or chemical process); PUR (Purification or
recovery); PYP (Physical process); REM (Removal or disposal); PREP
(Preparation); PROC (Process)
(sorbent material having covalently attached fluorinated or
perfluorinated surface with functional groups)
- IT Alkenes, reactions
 - RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(sorbent material having covalently attached fluorinated or
perfluorinated surface with functional groups)
- IT Salts, processes
 - RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); REM (Removal or disposal); PROC (Process)
(sorbent material having covalently attached fluorinated or
perfluorinated surface with functional groups)
- IT Nucleic acids
 - RL: PUR (Purification or recovery); PREP (Preparation)
(sorbent material having covalently attached fluorinated or
perfluorinated surface with functional groups)
- IT Oxides (inorganic), reactions
 - RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); RCT (Reactant); TEM (Technical or engineered material use); PROC
(Process); RACT (Reactant or reagent); USES (Uses)
(sorbent support; sorbent material having covalently attached
fluorinated or perfluorinated surface with functional groups)
- IT Amino group
 - Carboxyl group
 - Hydroxyl group
(surface functional groups on modified support; sorbent material having
covalently attached fluorinated or perfluorinated surface with
functional groups)
- IT Bromides, uses
 - Lactams
 - RL: TEM (Technical or engineered material use); USES (Uses)
(surface functional groups on modified support; sorbent material having
covalently attached fluorinated or perfluorinated surface with
functional groups)
- IT DNA

- RL: PUR (Purification or recovery); PREP (Preparation)
(test kit for purification; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Cytolysis
(test kit for; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Drying
(to remove water and/or solvents; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT Lab-on-a-chip
(with sorbent of invention; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT 9002-88-4, Polyethylene 9003-01-4D, Polyacrylic acid, derivs. and copolymers 9003-53-6, Polystyrene 25087-26-7D, Polymethacrylic acid, derivs. and copolymers
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); TEM (Technical or engineered material use); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(crosslinked, sorbent support; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT 183863-24-3, Molybdenum silicon oxide
RL: ANT (Analyte); FMU (Formation, unclassified); ANST (Analytical study); FORM (Formation, nonpreparative)
(formed in hydrolytic stability test; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT 9001-63-2, Lysozyme 9001-99-4, RNase
RL: CAT (Catalyst use); USES (Uses)
(in test kit; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT 60676-86-0, Vitreous silica
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); TEM (Technical or engineered material use); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(porous, GPB-Trisopor 500; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT 10028-15-6, Ozone, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(radical initiation by; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT 7439-89-6, Iron, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(reactor vessel; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT 11098-84-3, Ammonium molybdate 12680-49-8, Sodium molybdate
RL: ARU (Analytical role, unclassified); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT 77-86-1, Tris
RL: MOA (Modifier or additive use); USES (Uses)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)
- IT 67-64-1, Acetone, reactions
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 7631-86-9P, Silica,, preparation 689286-08-6P 689286-11-1P
689292-98-6P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 116-14-3, Tetrafluoroethene, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); REM (Removal or disposal); PROC (Process)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 689286-05-3P 689286-07-5P 689286-09-7P 689286-12-2P 689286-14-4P
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 67-56-1, Methanol, reactions 67-63-0, Isopropanol, reactions 88-12-0, reactions 97-05-2, Sulfosalicylic acid 106-95-6, Allyl bromide, reactions 107-02-8, Acrolein, reactions 116-15-4, Hexafluoropropene 124-02-7, Diallylamine 868-77-9, 2-Hydroxyethylmethacrylate 2235-00-9, N-Vinylcaprolactam 7664-93-9, Sulfuric acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 689286-00-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 689286-02-0P 689286-03-1P 689286-04-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

IT 1314-23-4, Zirconium oxide, reactions 1332-37-2, Iron oxide, reactions 1344-28-1, Aluminum oxide, reactions 7631-86-9D, Silica, nonstoichiometric 13463-67-7, Titanium oxide, reactions
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); TEM (Technical or engineered material use); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(sorbent support; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

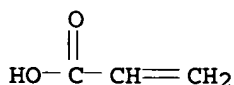
IT 9003-01-4D, Polyacrylic acid, derivs. and copolymers
25087-26-7D, Polymethacrylic acid, derivs. and copolymers
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); TEM (Technical or engineered material use); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(crosslinked, sorbent support; sorbent material having covalently attached fluorinated or perfluorinated surface with functional groups)

RN 9003-01-4 HCAPLUS
CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



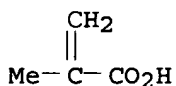
RN 25087-26-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-41-4

CMF C4 H6 O2



L58 ANSWER 12 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:314392 HCAPLUS

DN 140:411572

TI Lead Extraction from Contaminated Soil Using Water-Soluble Polymers

AU Sauer, Nancy N.; Ehler, Deborah S.; Duran, Brandy L.

CS Chemistry Division, Los Alamos National Laboratory, Los Alamos, NM, 87545, USA

SO Journal of Environmental Engineering (Reston, VA, United States) (2004), 130(5), 585-588

CODEN: JOEEDU; ISSN: 0733-9372

PB American Society of Civil Engineers

DT Journal

LA English

AB The applicability of water-soluble polymers as extractants for the remediation of heavy metal-contaminated soils was explored using a Pb-contaminated Superfund soil as a sample system.

Polyethylenimine (PEI) was **functionalized** with bromo- or chloroacetic acid to give an aminocarboxylate chelating group, which effectively binds Pb. The resulting polymer, PEIC, has extraction properties similar to the mol. chelator EDTA. A series of studies was done to probe optimum conditions for Pb extraction from soils obtained from the Cal-West Superfund site in New Mexico that contained .apprx.10,000 ppm of Pb. In batch extraction expts. using polymer functionalized at 2 different levels, the polymers removed >97% of the Pb from the soils. Subsequent expts. demonstrated that the selective extraction of Pb could be controlled by varying polymer functionalization levels. Concentration and regeneration of the polymers using ultrafiltration was demonstrated. Release of Pb from the polymer was accomplished by acidification to pH 1 with HCl. Subsequent ultrafiltration allowed recovery of the extractant polymer for reuse.

CC 60-4 (Waste Treatment and Disposal)

Section cross-reference(s): 19

ST lead extn contaminated soil water soluble polymer

IT Soil reclamation

(lead extraction from contaminated soil using water-soluble polymers)

IT Polymers, uses

RL: NUU (Other use, unclassified); USES (Uses)

(lead extraction from contaminated soil using water-soluble polymers)

IT Heavy metals

RL: **REM (Removal or disposal)**; PROC (Process)
(lead extraction from contaminated soil using **water-soluble polymers**)

IT Wastewater treatment
(ultrafiltration; lead extraction from contaminated soil using **water-soluble polymers**)

IT 9002-98-6P, **Polyethylenimine**
RL: NUU (Other use, unclassified); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(**functionalized with bromo- and chloroacetic acid**; lead extraction from contaminated soil using **water-soluble polymers**)

IT 7439-92-1, Lead, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(lead extraction from contaminated soil using **water-soluble polymers**)

IT 79-08-3, Bromoacetic acid 79-11-8, Chloroacetic acid, uses
RL: NUU (Other use, unclassified); USES (Uses)
(**polyethylenimine functionalized with bromo- and chloroacetic acid**; lead extraction from contaminated soil using **water-soluble polymers**)

IT 7439-92-1, Lead, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(lead extraction from contaminated soil using **water-soluble polymers**)

RN 7439-92-1 HCAPLUS

CN Lead (8CI, 9CI) (CA INDEX NAME)

Pb

RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 13 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:382536 HCAPLUS

DN 139:184784

TI Kinetic behaviour of Duolite ES 468 in the Co-sorption of non-ionic surfactant and copper(II)

AU Kauspediene, D.; Snukiskis, J.; Gefeniene, A.

CS Department of Ecological Chemistry, Institute of Chemistry, Vilnius, 2600, Lithuania

SO Journal of Hazardous Materials (2003), 99(3), 313-319
CODEN: JHMAD9; ISSN: 0304-3894

PB Elsevier Science B.V.

DT Journal

LA English

AB Kinetic behavior of the hydrogen form of Duolite ES 468
polyacrylic acid-functionalised cation
exchanger with respect to the sorption of non-ionic surfactant alkylmonoethers (ALM-10) and copper(II) has been investigated; kinetic curves have been obtained, using spectrophotometric determination for ALM-10 and complexometric one for copper(II). Kinetic coefficient (B), intraparticle diffusion coefficient (D; m² s⁻¹) and overall rate constant (k_o; s⁻¹) for non-ionic surfactant and copper(II) depend on the solution composition, pH and the maximum sorption at the equilibrium. On increasing the solution acidity from pH 5 to pH 3 a decrease in both D and the equilibrium sorption for copper(II) although an increase in D for ALM-10 is observed. The action of copper(II) results in an increase in both D for ALM-10 and the maximum sorption at the equilibrium, whereas the action of ALM-10 leads to a decrease in the corresponding parameters for copper(II). Hydrogen form of Duolite ES 468
polyacrylic acid-functionalised cation
exchanger is suitable for the simultaneous removal of non-ionic surfactant

and copper(II) from waste water.

CC 60-3 (Waste Treatment and Disposal)
Section cross-reference(s): 46

ST cation exchanger kinetics sorption nonionic surfactant copper removal
wastewater; **polyacrylic acid functionalised**
cation exchanger nonionic surfactant copper wastewater

IT Alcohols, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); **REM (Removal or disposal)**; PROC (Process)
(C12-14, ethoxylated; kinetic behavior of Duolite ES 468 in the
co-sorption of nonionic surfactant and copper from wastewater)

IT Wastewater treatment
(ion exchange; kinetic behavior of Duolite ES 468 in the co-sorption of
nonionic surfactant and copper from wastewater)

IT Chemisorption kinetics
(kinetic behavior of Duolite ES 468 in the co-sorption of nonionic
surfactant and copper from wastewater)

IT Wastewater treatment
(sorption; kinetic behavior of Duolite ES 468 in the co-sorption of
nonionic surfactant and copper from wastewater)

IT 128003-84-9, Duolite ES 468
RL: NUU (Other use, unclassified); USES (Uses)
(kinetic behavior of Duolite ES 468 in the co-sorption of nonionic
surfactant and copper from wastewater)

IT 7440-50-8, Copper, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); **REM (Removal or disposal)**; PROC (Process)
(kinetic behavior of Duolite ES 468 in the co-sorption of nonionic
surfactant and copper from wastewater)

IT 7440-50-8, Copper, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); **REM (Removal or disposal)**; PROC (Process)
(kinetic behavior of Duolite ES 468 in the co-sorption of nonionic
surfactant and copper from wastewater)

RN 7440-50-8 HCAPLUS

CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 14 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:304681 HCAPLUS

DN 139:198111

TI Synthesis and metal ion complexation properties of a novel
polyethyleneimine N-methylhydroxamic acid **water** soluble polymer

AU Bisset, Wendy; Jacobs, Hollie; Koshti, Nirmal; Stark, Peter; Gopalan,
Aravamudan

CS MSC 3C, Department of Chemistry and Biochemistry, New Mexico State
University, Las Cruces, NM, 88003-8001, USA

SO Reactive & Functional Polymers (2003), 55(2), 109-119
CODEN: RFPOF6; ISSN: 1381-5148

PB Elsevier Science B.V.

DT Journal

LA English

AB A new **water**-soluble polyethyleneimine polymer that incorporates
N-methylhydroxamic acid chelating groups is synthesized as part of a

program to develop **water-soluble** chelating polymers for the selective separation of trivalent cations such as iron(III) and tetravalent actinide ions such as Th(IV) or Pu(IV) from **aqueous**, radioactive waste streams. Both the synthesis of this chelating polymer, PEI-NMH, and its ability to achieve selective **separation** of target **metal** ions using ultrafiltration are discussed. The PEI-NMH polymer selectively binds iron(III) over thorium(IV) at pH 1 in contrast to its primary hydroxamate analog PEI-H. The binding properties of these polymers were evaluated using both potentiometric and spectrophotometric methods. A comparison of the binding properties of PEI-NMH and PEI-H reveals the importance of the nature of the ligand in the complexation process.

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 71

ST polyethyleneimine methylhydroxamate complexation metal ion radioactive waste

IT Radioactive wastes

(liquid; synthesis and metal ion complexation properties of **water**-soluble N-methylhydroxamate-functionalized polyethyleneimine for possible use in selective **separation** of **metal** ions from radioactive waste streams using ultrafiltration)

IT Polyamines

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(methylhydroxamic acid derivs.; synthesis and metal ion complexation properties of **water-soluble** N-methylhydroxamate-functionalized polyethyleneimine for possible use in selective **separation** of **metal** ions from radioactive waste streams)

IT Chelating agents

Ultrafiltration

(synthesis and metal ion complexation properties of **water**-soluble N-methylhydroxamate-functionalized polyethyleneimine for possible use in selective **separation** of **metal** ions from radioactive waste streams using ultrafiltration)

IT Actinides

Rare earth metals, preparation

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis and metal ion complexation properties of **water**-soluble N-methylhydroxamate-functionalized polyethyleneimine for possible use in selective **separation** of **metal** ions from radioactive waste streams using ultrafiltration)

IT 7429-90-5, Aluminum, processes 7439-89-6, Iron, processes 7440-00-8,

Neodymium, processes 7440-02-0, Nickel, processes

7440-24-6, Strontium, processes 7440-29-1, Thorium, processes

7440-50-8, Copper, processes 7440-53-1,

Europium, processes

RL: PEP (Physical, engineering or chemical process); POL (Pollutant); PYP (Physical process); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)

(chelation/retention of; by **water-soluble** N-methylhydroxamate-functionalized polyethyleneimine for possible use in selective **separation** of **metal** ions from radioactive waste streams using ultrafiltration)

IT 26913-06-4DP, Poly[imino(1,2-ethanediyl)], reaction products with [[(dimethylethyl)diphenylsilyl]oxy]propenamide, hydrolyzed

157614-54-5DP, reaction products with polyethyleneimine, hydrolyzed

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis and metal ion complexation properties of **water**

-soluble N-methylhydroxamate-functionalized polyethyleneimine
for possible use in selective separation of metal ions
from radioactive waste streams using ultrafiltration)

IT 7440-02-0, Nickel, processes 7440-50-8,
Copper, processes 7440-53-1, Europium, processes
RL: PEP (Physical, engineering or chemical process); POL (Pollutant); PYP
(Physical process); REM (Removal or disposal); OCCU (Occurrence)
; PROC (Process)
(chelation/retention of; by water-soluble N-methylhydroxamate-
functionalized polyethyleneimine for possible use in selective
separation of metal ions from radioactive waste streams
using ultrafiltration)

RN 7440-02-0 HCAPLUS
CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

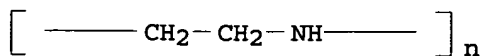
Cu

RN 7440-53-1 HCAPLUS
CN Europium (8CI, 9CI) (CA INDEX NAME)

Eu

IT 26913-06-4DP, Poly[imino(1,2-ethanediyl)], reaction products with
[[[(dimethylethyl)diphenylsilyl]oxy]propenamide, hydrolyzed
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(synthesis and metal ion complexation properties of water
-soluble N-methylhydroxamate-functionalized polyethyleneimine
for possible use in selective separation of metal ions
from radioactive waste streams using ultrafiltration)

RN 26913-06-4 HCAPLUS
CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 15 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:409281 HCAPLUS
DN 136:402561
TI Inhibiting scale formation using water-soluble polymers having pendant
derivatized amide functionalities and polymer manufacture
IN Carter, Phillip W.; Morris, John D.; Reed, Peter E.; Tang, Jiansheng;
Wang, Jin-shan; Young, Paul R.
PA USA

SO U.S. Pat. Appl. Publ., 11 pp., Cont.-in-part of U. S. 6,017,994.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002065358	A1	20020530	US 1999-333384	19990615
	US 5726267	A	19980310	US 1997-792610	19970131
	US 6017994	A	20000125	US 1997-884154	19970627
PRAI	US 1997-792610	A2	19970131		
	US 1997-884154	A2	19970627		
AB	Inhibiting scale formation in industrial H2O comprises adding an effective amount of a water-soluble polymer having pendant amide functionalities.				
IC	ICM C08K003-00				
INCL	524555000				
CC	37-3 (Plastics Manufacture and Processing)				
	Section cross-reference(s): 61				
ST	water soluble polymer scale control; ammonium acrylate copolymer scale control; hydroxyethoxy acrylamide copolymer scale control				
IT	Silt (scale; water-soluble polymers having pendant derivatized amide functionalities for scale control)				
IT	Clays, miscellaneous RL: MSC (Miscellaneous) (scale; water-soluble polymers having pendant derivatized amide functionalities for scale control)				
IT	Cooling water Scale inhibitors (water-soluble polymers having pendant derivatized amide functionalities for scale control)				
IT	Polymers, preparation RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PREP (Preparation); USES (Uses) (water-soluble; water-soluble polymers having pendant derivatized amide functionalities for scale control)				
IT	471-34-1, Calcium carbonate, miscellaneous 546-93-0, Magnesium carbonate 1309-33-7, Iron hydroxide (Fe(OH)3) 7727-43-7, Barium sulfate 7757-86-0, Phosphoric acid, magnesium salt (1:1) 7757-93-9, Phosphoric acid, calcium salt (1:1) 7778-18-9, Calcium sulfate 7779-90-0, Zinc phosphate 21645-51-2, Aluminum hydroxide, miscellaneous RL: MSC (Miscellaneous) (scale; water-soluble polymers having pendant derivatized amide functionalities for scale control)				
IT	111-41-1DP, Ethanol, 2-[(2-aminoethyl)amino]-, reaction products with acrylamide-sodium acrylate copolymer 141-43-5DP, reaction products with acrylamide-acrylic acid copolymer 929-06-6DP, Ethanol, 2-(2-aminoethoxy)-, reaction products with poly(acrylic acid) 1336-21-6DP, Ammonium Hydroxide, reaction products with poly(acrylic acid) 9003-01-4DP, Poly(acrylic acid), reaction products with aminoethoxyethanol and ammonium hydroxide 9003-05-8DP, Polyacrylamide, reaction products with aminoethoxyethanol 9003-06-9DP, Acrylamide-acrylic acid copolymer, reaction products with aminoethoxyethanol 25085-02-3DP, Acrylamide-sodium acrylate copolymer, reaction products with aminoethoxyethanol 26100-47-0DP, Acrylamide-ammonium acrylate copolymer, reaction products with aminoethoxyethanol 34447-10-4DP, 1-Propanamine, methoxy-, reaction products with acrylamide-sodium acrylate copolymer 83713-01-3DP, Jeffamine M 1000, reaction products with acrylamide-sodium acrylate copolymer				

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(water-soluble polymers having pendant derivatized amide functionalities for scale control)

IT 9003-01-4DP, Poly(acrylic acid), reaction products with aminoethoxyethanol and ammonium hydroxide
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(water-soluble polymers having pendant derivatized amide functionalities for scale control)

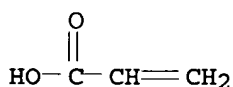
RN 9003-01-4 HCAPLUS

CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



L58 ANSWER 16 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:266443 HCAPLUS

DN 137:67396

TI Combined sorption of cobalt(II) and nonionic surfactant by **polyacrylic acid-functionalized** cation exchanger

AU Snukiskis, Julius; Kauspediene, Danute

CS Institute of Chemistry, Vilnius, 2600, Lithuania

SO Separation Science and Technology (2002), 37(4), 921-936
CODEN: SSTEDS; ISSN: 0149-6395

PB Marcel Dekker, Inc.

DT Journal

LA English

AB The kinetics of combined sorption of Co²⁺ and nonionic surfactant, ALM-10, by the H-form of Purolite C 106 **polyacrylic acid-functionalized** cation exchanger were studied. Kinetic curves were obtained to spectrophotometrically determine nonionic surfactant concns., and complexometrically determine Co²⁺ concns. Reducing initial solution acidity from pH 5 to 8, coeffs. of intraparticle diffusion (D) for Co²⁺ increased, although they decreased as cation exchanger saturation increased. Surfactant sorption was slower than Co²⁺ sorption. Cation exchanger regeneration was performed using 0.7 M HCl to remove Co²⁺, 0.5 M NaOH to remove the surfactant, and 0.7 M HCl to convert the ion exchanger to the H-form. H-form of Purolite C 106 can be used to simultaneously remove nonionic surfactant and Co²⁺ from electroplating rinse wastewater to recover water for recycling.

CC 60-3 (Waste Treatment and Disposal)
Section cross-reference(s): 46, 61, 67, 72

ST electroplating wastewater treatment surfactant cobalt ion exchange; adsorption cobalt Purolite C106 **polyacrylic acid functionalized** cation exchanger; water recycling
electroplating wastewater treatment; kinetics sorptive removal cobalt nonionic surfactant electroplating wastewater; intraparticle diffusion
cobalt nonionic surfactant removal ion exchange

IT Alcohols, processes

- RL: PEP (Physical, engineering or chemical process); POL (Pollutant); PYP (Physical process); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)
(C12-14, ethoxylated, nonionic surfactant; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized cation exchanger**)
- IT Wastewater treatment
(adsorption; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized cation exchanger**)
- IT Diffusion
(intraparticle; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized cation exchanger**)
- IT Wastewater treatment
(ion exchange; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized cation exchanger**)
- IT Surfactants
(nonionic; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized cation exchanger**)
- IT Adsorption
(pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized cation exchanger**)
- IT Cation exchangers
(**polyacrylic acid functionalized**; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized cation exchanger**)
- IT Electrodeposition
(wastewater from; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized cation exchanger**)
- IT 144046-63-9, Purolite C 106
RL: NUU (Other use, unclassified); USES (Uses)
(H-form; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized cation exchanger**)
- IT 1310-73-2, Sodium hydroxide, uses 7647-01-0, Hydrochloric acid, uses
RL: NUU (Other use, unclassified); USES (Uses)
(ion exchanger regeneration with; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized cation exchanger**)
- IT 7440-48-4, Cobalt, processes
RL: PEP (Physical, engineering or chemical process); POL (Pollutant); PYP (Physical process); REM (Removal or disposal); OCCU

(Occurrence); PROC (Process)
(pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized** cation exchanger)

IT 7732-18-5P, Water, processes
RL: PEP (Physical, engineering or chemical process); **PUR** (Purification or recovery); PYP (Physical process); PREP (Preparation); PROC (Process)
(recycling of; pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized** cation exchanger)

IT 7440-48-4, Cobalt, processes
RL: PEP (Physical, engineering or chemical process); POL (Pollutant); PYP (Physical process); **REM** (Removal or disposal); OCCU (Occurrence); PROC (Process)
(pH and intraparticle diffusion effect on combined removal of cobalt and nonionic surfactant from electroplating wastewater by sorption on hydrogen-form of **polyacrylic acid-functionalized** cation exchanger)

RN 7440-48-4 HCAPLUS
CN Cobalt (8CI, 9CI) (CA INDEX NAME)

Co

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 17 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:151610 HCAPLUS

DN 136:169061

TI Barrier coatings based on silylated amino functional polymers for use on packaging films and various articles

IN Merlin, Patrick

PA Dow Corning SA, Belg.

SO Brit. UK Pat. Appl., 28 pp.

CODEN: BAXXDU

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2360525	A1	20010926	GB 2000-7138	20000324
PRAI	GB 2000-7138		20000324		

AB The coatings are obtained by reacting an amino functional organic polymer, e.g., polyethyleneimine with a reactive silane. Thus, a 25% solids solution was prepared by dissolving 40 g of Epomin SP 110 (polyethyleneimine) in 143 g of HPLC grade i-PrOH, combined with 10 g of chloropropyltrimethoxysilane and heated to reflux for 24 h to complete reaction. The resulting solution was neutralized with 9 g of 30% NaOH solution in MeOH, filtered, coated onto an LDPE film and cured to give a coat layer for reducing gas permeation.

IC ICM C09D179-02

CC 42-10 (Coatings, Inks, and Related Products)

ST silylated amino functional polymer barrier coating packaging film

IT Packaging materials

(films; barrier coatings based on silylated amino functional polymers for use on packaging films and various articles)

IT Coating materials
(gas-impermeable; barrier coatings based on silylated amino functional polymers for use on packaging films and various articles)

IT Packaging materials
(laminated films; barrier coatings based on silylated amino functional polymers for use on packaging films and various articles)

IT Polyamines
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(silylated products; barrier coatings based on silylated amino functional polymers for use on packaging films and various articles)

IT 2530-83-8DP, 3-Glycidoxypropyltrimethoxysilane, amino functional polymers modified with 2530-85-0DP, 3-Methacryloxypropyltrimethoxysilane, amino functional polymers modified with 3388-04-3DP, A 186, amino functional polymers modified with 9002-98-6DP, silylated products 13732-00-8DP, 3-Acryloxypropylmethyldimethoxysilane, amino functional polymers modified with 25512-39-4DP, Chloropropyltrimethoxysilane, amino functional polymers modified with
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(barrier coatings based on silylated amino functional polymers for use on packaging films and various articles)

IT 106-91-2, Glycidyl methacrylate 2425-79-8 13048-33-4, 1,6-Hexanediol diacrylate
RL: MOA (Modifier or additive use); USES (Uses)
(crosslinker for coating; barrier coatings based on silylated amino functional polymers for use on packaging films and various articles)

IT 9002-88-4, Polyethylene
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(films or laminates; barrier coatings based on silylated amino functional polymers for use on packaging films and various articles)

IT 9002-98-6DP, silylated products
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(barrier coatings based on silylated amino functional polymers for use on packaging films and various articles)

RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



L58 ANSWER 18 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:581946 HCAPLUS

DN 135:167189

TI Alkali-resistant, absorbent coatings

IN Mueller, Egbert; Seiler, Anja; Poguntke, Peter

PA Merck Patent G.m.b.H., Germany

SO PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2001057098	A1	20010809	WO 2001-EP606	20010119	
	W:			AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM		
	RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG		
	DE 10004565	A1	20010809	DE 2000-10004565	20000202	
	EP 1263806	A1	20021211	EP 2001-907471	20010119	
	R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR		

PRAI DE 2000-10004565 A 20000202
WO 2001-EP606 W 20010119

AB The title coatings, useful in the purification of biopolymers owing to their protein-binding capacity (no data), are prepared by the reaction of specified functional compds. with glycidylalkyl alkenoate polymers of specified structure. A chromatog. column was packed with bundles of 64 nylon fibers (length 30 cm, inner diameter 200 µm, outer diameter 2 mm, average pore diameter 1-2 µm, surface 97 cm²), a solution of 10 g glycidyl methacrylate (I), 40 mL dioxane, 160 mL H₂O, and 17.5 g 32% NaOH was pumped over the column at 3 mL/min, the column was rinsed, a solution of 15 g I and 1 g AIBN in 200 mL PhMe was pumped over the column at 100° and 7 mL/min, the column was rinsed, 200 mL 50% aqueous Et₂NH was pumped over the column at room temperature for 6 h, and the column was rinsed with H₂O, treated with 1M ethanolamine at 40° for 3 h, and eluted with phosphate buffer (pH 7). The alkali stability of the column is exemplified.

IC ICM C08F008-30

ICS C08F008-34

CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 9

ST coating absorbent alkali resistant; biopolymer sepn chromatog coating; nylon fiber modified absorbent; glycidyl methacrylate copolymer nylon modified

IT Absorbents

(alkali-resistant, absorbent coatings)

IT Liquid chromatography

(alkali-resistant, absorbent coatings for use in chromatog. separation)

IT Alcohols, preparation

Thiols (organic), preparation

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(amino, reaction products with glycidyl group-containing polymers; alkali-resistant, absorbent coatings)

IT Polyamide fibers, preparation

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(reaction products and copolymers with glycidyl methacrylate; alkali-resistant, absorbent coatings)

IT Amines, preparation

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(reaction products with glycidyl group-containing polymers;
alkali-resistant, absorbent coatings)

IT Amines, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(thiol, reaction products with glycidyl group-containing polymers; alkali-resistant, absorbent coatings)

IT 106-91-2DP, Glycidyl methacrylate, reaction products with nylon fibers, copolymers with glycidyl methacrylate 109-89-7DP, Diethylamine, reaction products with glycidyl methacrylate-modified nylon fibers
9002-89-5DP, glycidyl derivs., functionalized
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(alkali-resistant, absorbent coatings)

IT **9002-89-5DP, glycidyl derivs., functionalized**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(alkali-resistant, absorbent coatings)

RN 9002-89-5 HCAPLUS

CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O

 $\text{H}_2\text{C}=\text{CH}-\text{OH}$

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 19 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:580488 HCAPLUS

DN 135:289506

TI Thermophysical property modifications in functional polymers via
lanthanide trichloride hydrates

AU Belfiore, Laurence A.; Ruzmaikina, Izolda Y.; Das, Pronab K.

CS Polymer Physics & Engineering Laboratory Department of Chemical
Engineering, Colorado State University, Fort Collins, CO, 80523, USA

SO Polymer Engineering and Science (2001), 41(7), 1196-1205

CODEN: PYESAZ; ISSN: 0032-3888

PB Society of Plastics Engineers

DT Journal

LA English

AB Fourteen water-soluble trivalent metal chlorides from lanthanum to lutetium in the 1st-row of the f-block form complexes with poly(vinyl amine) and increase the glass transition temperature from 57°C to well above 100°C at very low molar concns. of the **lanthanide**. The large ionic radii of these hard-acid cations allow several hard-base amino side groups in the polymer to occupy sites in the first shell coordination sphere via ion-dipole (i.e., electrostatic) interactions, which leads to micro clustering of the ligands about a single metal center. The enhancement in the glass transition temperature is explained in terms of multi-functional coordination crosslinking, f-Block salts induce larger increases in Tg, relative to transition metal-complexes from the d-block, however $\text{CoCl}_2(\text{H}_2\text{O})_6$ performs comparably to some of the more efficient **lanthanides**. Blends of poly(vinyl amine) and trimethoxy silyl-Pr poly(ethylene imine)hydrochloride form complexes with

- europium(III) and exhibit synergistic single Tg response. Since lanthanides form very stable complexes with chelating (i.e., bidentate) oxygen ligands, it is possible to increase the elastic modulus of com. important copolymers of ethylene and methacrylic acid via Eu³⁺ complexation with the carboxylate anion. This claim is verified by IR spectroscopy. Temperature and pH-sensitive applications for drug delivery and removal of contaminants from wastewater streams should increase the utility of these lanthanide complexes.
- CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 68, 78
- ST lanthanide complex polyvinylamine polyethyleneimine glass
transition temp stress fracture
- IT Stress, mechanical
(fracture; thermophys. property modifications in functional polymers via lanthanide trichloride hydrates)
- IT Polyamines
Polyphosphazenes
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(lanthanides and heavy metal complexes; thermophys. property modifications in functional polymers via lanthanide trichloride hydrates)
- IT Breaking strength
Glass transition temperature
Stress-strain relationship
Young's modulus
(thermophys. property modifications in functional polymers via lanthanide trichloride hydrates)
- IT Rare earth complexes
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(thermophys. property modifications in functional polymers via lanthanide trichloride hydrates)
- IT Stress, mechanical
(yield; thermophys. property modifications in functional polymers via lanthanide trichloride hydrates)
- IT 72018-12-3D, Poly(vinylformamide), hydrolyzed, complexes with lanthanides and heavy metals
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(thermophys. property modifications in functional polymers via lanthanide trichloride hydrates)
- IT 2530-87-2DP, (3-Chloropropyl)trimethoxysilane, reaction product with poly(ethylene imine), europium complex 7429-91-6DP, Dysprosium, complexes with poly(vinyl amine), preparation 7439-91-0DP, Lanthanum, complexes with poly(vinyl amine), preparation 7439-94-3DP, Lutecium, complexes with poly(vinyl amine) 7440-00-8DP, Neodymium, complexes with poly(vinyl amine), preparation 7440-02-0DP, Nickel, complexes with poly(vinyl amine), preparation 7440-10-0DP, Praseodymium, complexes with poly(vinyl amine), preparation 7440-18-8DP, Ruthenium, complexes with poly(vinyl amine), preparation 7440-19-9DP, Samarium, complexes with poly(vinyl amine), preparation 7440-27-9DP, Terbium, complexes with poly(vinyl amine), preparation 7440-30-4DP, Thulium, complexes with poly(vinyl amine), preparation 7440-45-1DP, Cerium, complexes with poly(vinyl amine), preparation 7440-48-4DP, Cobalt, complexes with poly(vinyl amine), preparation 7440-52-0DP, Erbium, complexes with poly(vinyl amine), preparation 7440-53-1DP, Europium, complexes with poly(vinyl amine), preparation 7440-54-2DP, Gadolinium, complexes with poly(vinyl amine), preparation 7440-60-0DP, Holmium, complexes with poly(vinyl amine), preparation 7440-64-4DP, Ytterbium, complexes with poly(vinyl amine), preparation 9002-98-6DP, europium complex 9003-05-8DP,

Polyacrylamide, europium complex 9003-39-8DP, Poly(vinylpyrrolidone), europium complex 25053-53-6DP, Ethylene-methacrylic acid copolymer, europium complex 25231-98-5DP, Hexachlorocyclotriphosphazene homopolymer, phenol-substituted, europium complex 25232-41-1DP, Poly(4-vinylpyridine), europium complex 25805-17-8DP, Poly(2-ethyl-2-oxazoline), europium complex 26085-02-9DP, Polydichlorophosphazene, phenol-substituted, europium complex 26913-06-4DP, Poly[imino(1,2-ethanediyl)], reaction product with (3-chloro propyl)trimethoxy silane, europium complex
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(thermophys. property modifications in functional polymers
via lanthanide trichloride hydrates)

IT 7440-02-0DP, Nickel, complexes with poly(vinyl amine), preparation 7440-48-4DP, Cobalt, complexes with poly(vinyl amine), preparation 7440-53-1DP, Europium, complexes with poly(vinyl amine), preparation 9002-98-6DP, europium complex 26913-06-4DP, Poly[imino(1,2-ethanediyl)], reaction product with (3-chloro propyl)trimethoxy silane, europium complex
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(thermophys. property modifications in functional polymers
via lanthanide trichloride hydrates)

RN 7440-02-0 HCAPLUS
CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

RN 7440-48-4 HCAPLUS
CN Cobalt (8CI, 9CI) (CA INDEX NAME)

Co

RN 7440-53-1 HCAPLUS
CN Europium (8CI, 9CI) (CA INDEX NAME)

Eu

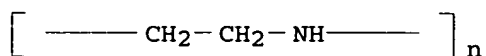
RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N



RN 26913-06-4 HCAPLUS
CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 20 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:559471 HCAPLUS

DN 135:138136

TI Procedure for the production of functionalized polyurethane foams

IN Arlt, Andreas; Becker, Armin; Treuling, Ulrich; Riegel, Willi

PA Basf A.-G., Germany

SO Ger. Offen., 16 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10003157	A1	20010802	DE 2000-10003157	20000126
PRAI	DE 2000-10003157		20000126		

AB Invention concerns procedures for production of functionalized polyurethane foams with adsorption properties, whereby isocyanates are reacted with compds. having ≥ 2 NCO-reactive hydrogen atoms as well as ≥ 1 of compound (i), having ≥ 1 of (ia) hydroxyl group, amino group and/or thiol group and addnl. ≥ 1 of (ib) halogen and/or a carbonyl group, an ester group, an anhydride group, an epoxy group, a carboxyl group and/or a sultone group, and reacting the resulting foams with (ii) compds. that are reactive with the (ib) groups. A typical functionalized polyurethane foam with Cu adsorption properties was manufactured by mixing 250 g mixture containing Lupranol 2047 87, Lupranol 3402 8, Lupranol 2040 5, water 3.2, Lupragen N 201 0.15, Lupragen N 206 0.1, hydroxyethyl acrylate 5, and Tegostab B 8418 0.5 parts with 169 g mixture containing 25 parts Lupranat M 20W and 75 parts Lupranat B 620/1 and then treating the resulting foam with a 1% soln of Lupasol WF (polyethylenimine).

IC ICM C08G018-83

ICS C08L075-04; C08L079-02; C07K017-06; C07K017-08; C12N011-06; C12N011-08; B01J020-26

CC 37-3 (Plastics Manufacture and Processing)

ST polyurethane foam functionalized manuf adsorbent; polyoxyalkylene polyamine polyurethane hydroxyethyl acrylate polyethylenimine adduct copper adsorbent

IT Catalysts

(bio-; production of functionalized polyurethane foams with adsorption properties for biocatalysts)

IT Halides

RL: IMF (Industrial manufacture); PREP (Preparation)

(organic, reaction products, with polyurethanes; production of functionalized polyurethane foams with adsorption properties for biocatalysts)

IT Polyamines

RL: IMF (Industrial manufacture); PREP (Preparation)

(polyamide-, reaction products, with functionalized polyurethanes; production of functionalized polyurethane foams with adsorption properties)

IT Polyamides, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)

(polyamine-, reaction products, with functionalized polyurethanes; production of functionalized polyurethane foams with adsorption properties)

IT Polyurethanes, preparation

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)

- (polyamine-polyoxyalkylene-; production of functionalized polyurethane foams with adsorption properties)
- IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(polyamine-polyurethane-; production of functionalized polyurethane foams with adsorption properties)
- IT Polyurethanes, preparation
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(polyoxyalkylene-; production of functionalized polyurethane foams with adsorption properties)
- IT Polyamines
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(polyoxyalkylene-polyurethane-; production of functionalized polyurethane foams with adsorption properties)
- IT Adsorbents
Filters
(production of functionalized polyurethane foams with adsorption properties)
- IT Plastic foams
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(production of functionalized polyurethane foams with adsorption properties)
- IT Acids, processes
RL: REM (Removal or disposal); PROC (Process)
(production of functionalized polyurethane foams with adsorption properties)
- IT Aldehydes, processes
RL: REM (Removal or disposal); PROC (Process)
(production of functionalized polyurethane foams with adsorption properties)
- IT Heavy metals
RL: REM (Removal or disposal); PROC (Process)
(production of functionalized polyurethane foams with adsorption properties)
- IT Disinfectants
Dyes
Perfumes
(reaction products, with functionalized polyurethanes; production of functionalized polyurethane foams with adsorption properties)
- IT Aldehydes, preparation
Carboxylic acids, preparation
Epoxides
Esters, preparation
Ketones, preparation
Polyamines
RL: IMF (Industrial manufacture); PREP (Preparation)
(reaction products, with polyurethanes; production of functionalized polyurethane foams with adsorption properties for biocatalysts)
- IT Polyurethanes, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(reaction products; production of functionalized polyurethane foams with adsorption properties)
- IT Lactones
RL: IMF (Industrial manufacture); PREP (Preparation)
(sultones, reaction products, with polyurethanes; production of functionalized polyurethane foams with adsorption properties for biocatalysts)
- IT 75-55-8DP, Propylenimine, reaction products with functionalized polyurethanes 110-86-1DP, Pyridine, reaction products with functionalized polyurethanes, preparation 151-56-4DP, Ethylenimine,

reaction products with functionalized polyurethanes 288-32-4DP, Imidazole, reaction products with functionalized polyurethanes 25037-42-7DP, Polypropylenimine, reaction products with functionalized polyurethanes 26336-38-9DP, Polyvinylamine, reaction products with functionalized polyurethanes 32290-92-9DP, Polypropylenimine, reaction products with functionalized polyurethanes
RL: IMF (Industrial manufacture); PREP (Preparation)

(production of functionalized polyurethane foams with adsorption properties)

IT 89-97-4DP, 2-Chlorobenzylamine, reaction products with polyurethanes and reactive compds. 120-47-8DP, Ethyl 4-hydroxybenzoate, reaction products with polyurethanes and reactive compds. 121-33-5DP, Vanillin, reaction products with polyurethanes and reactive compds. 122-34-9DP, 2-Chloro-4,6-bis(ethylamino)-1,3,5-triazine, reaction products with polyurethanes and reactive compds. 141-22-0DP, Ricinoleic acid, reaction products with polyurethanes and reactive compds. 477-73-6DP, Safranin O, reaction products with functionalized polyurethanes 556-52-5DP, Oxiranemethanol, reaction products with polyurethanes and reactive compds. 586-95-8DP, 4-Hydroxymethylpyridine, reaction products with functionalized polyurethanes 628-89-7DP, 2-(2-Chloroethoxy)ethanol, reaction products with polyurethanes and reactive compds. 818-61-1DP, reaction products with polyurethanes and reactive compds. 1709-71-3DP, reaction products with polyurethanes and reactive compds. 5036-48-6DP, N-(3-Aminopropyl)imidazole, reaction products with functionalized polyurethanes 5405-41-4DP, Ethyl 3-hydroxybutyrate, reaction products with polyurethanes and reactive compds. 9002-98-6DP, Lupasol WF, reaction products with functionalized polyurethanes 37418-88-5DP, reaction products with polyurethanes and reactive compds. 351523-30-3DP, functionalized derivs. 351523-31-4DP, functionalized derivs. 351523-34-7DP, functionalized derivs.
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(production of functionalized polyurethane foams with adsorption properties)

IT 50-00-0, Formaldehyde, processes 7440-02-0, Nickel, processes 7440-48-4, Cobalt, processes 7440-50-8, Copper, processes

RL: REM (Removal or disposal); PROC (Process)

(production of functionalized polyurethane foams with adsorption properties)

IT 9001-62-1P, lipase

RL: IMF (Industrial manufacture); PREP (Preparation)

(reaction products, with functionalized polyurethanes; production of functionalized polyurethane foams with adsorption properties)

IT 674-82-8DP, diketene, alkyl derivs.

RL: IMF (Industrial manufacture); PREP (Preparation)

(reaction products, with polyurethanes; production of functionalized polyurethane foams with adsorption properties for biocatalysts)

IT 9002-98-6DP, Lupasol WF, reaction products with functionalized polyurethanes

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)

(production of functionalized polyurethane foams with adsorption properties)

RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



IT 7440-02-0, Nickel, processes 7440-48-4,
Cobalt, processes 7440-50-8, Copper, processes
RL: REM (Removal or disposal); PROC (Process)
(production of functionalized polyurethane foams with adsorption
properties)
RN 7440-02-0 HCAPLUS
CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

RN 7440-48-4 HCAPLUS
CN Cobalt (8CI, 9CI) (CA INDEX NAME)

Co

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

L58 ANSWER 21 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:31558 HCAPLUS
DN 134:86660
TI Biodegradable block copolymers with modifiable surface
IN Gopferich, Achim; Tessmar, Jorg; Schulz, Michaela; Blunk, Torsten; Mikos,
Antonios
PA Germany
SO PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001002460	A1	20010111	WO 2000-EP6313	20000705
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ,				
	DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN,				
	IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,				
	MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,				
	SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ,				
	BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,				
	DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,				
	CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	DE 19930729	A1	20010111	DE 1999-19930729	19990705
	AU 2000066889	A5	20010122	AU 2000-66889	20000705
	EP 1198488	A1	20020424	EP 2000-954430	20000705

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL

PRAI DE 1999-19930729 A 19990705

WO 2000-EP6313 W 20000705

AB The title polymers, useful as carriers for tissue culture and active substances and for controlled release and targeted administration of active substances, comprise biodegradable, hydrophobic segments and hydrophilic segments bearing reactive groups for covalent bonding to surface-modifying substances, the reactive groups being functional groups and/or biofunctional mols. bearing such groups (but not OH groups when the hydrophilic segment is polyoxyethylene). Polymerization of ethylene oxide in THF, adding (Me3Si)2NK, stirring at room temperature for 36 h, and hydrolyzing with HCl have an NH2 group-terminated polyoxyethylene which was polymerized with cyclic D,L-lactide in PhMe in the presence of Sn ethylhexanoate to give a block polymer (I). Refluxing I with a slight excess of disuccinimidyl tartrate in MeCN containing Et3N gave a functionalized block copolymer.

IC ICM C08G063-664

ICS C08G081-00; A61L027-18; A61K047-48

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 9, 63

ST block copolymer functional biodegradable; polyoxyethylene block copolymer biodegradable; lactide block copolymer biodegradable; succinimidyl tartrate adduct block copolymer; tissue culture block copolymer biodegradable; controlled release block copolymer biodegradable

IT Polyoxyalkylenes, preparation

RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(amino group-terminated, reaction products with polylactide and disuccinyl tartrate; biodegradable block copolymers with modifiable surfaces)

IT Biodegradable materials

(biodegradable block copolymers with modifiable surfaces)

IT Cell

(biodegradable block copolymers with modifiable surfaces for bonding of cells)

IT Dyes

(biodegradable block copolymers with modifiable surfaces for bonding of dyes)

IT Proteins, general, biological studies

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(biodegradable block copolymers with modifiable surfaces for bonding of proteins)

IT Drug delivery systems

(biodegradable block copolymers with modifiable surfaces for use in targeted drug delivery)

IT Animal tissue culture

(biodegradable block copolymers with modifiable surfaces for use in tissue culture)

IT Polymers, preparation

RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(block; biodegradable block copolymers with modifiable surfaces)

IT Ortho acids

RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

- (esters, polymers, reaction products with hydrophilic polymers, functional derivs.; biodegradable block copolymers with modifiable surfaces)
- IT Polyoxyalkylenes, preparation
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(polyester-, block, functional derivs.; biodegradable block copolymers with modifiable surfaces)
- IT Polyesters, preparation
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(polyoxyalkylene-, block, functional derivs.; biodegradable block copolymers with modifiable surfaces)
- IT Peptides, preparation
Polyamides, preparation
Polyanhydrides
Polycarbonates, preparation
Polyesters, preparation
Polyphosphazenes
Polysaccharides, preparation
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(reaction products with hydrophilic polymers, functional derivs.; biodegradable block copolymers with modifiable surfaces)
- IT Polyoxyalkylenes, preparation
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(reaction products with hydrophobic polymers, functional derivs.; biodegradable block copolymers with modifiable surfaces)
- IT 9002-89-5DP, Poly(vinyl alcohol), reaction products with hydrophobic polymers, functional derivs. 9003-05-8DP, Polyacrylamide, reaction products with hydrophobic polymers, functional derivs. 9003-11-6DP, Polyethylene-polypropylene glycol, reaction products with hydrophobic polymers, functional derivs. 24980-41-4DP, Polycaprolactone, reaction products with hydrophilic polymers, functional derivs. 25190-06-1DP, Polytetramethylene glycol, reaction products with hydrophobic polymers, functional derivs. 25248-42-4DP, Polycaprolactone, sru, reaction products with hydrophilic polymers, functional derivs. 25322-68-3DP, Polyethylene glycol, amino group-terminated, reaction products with polylactide and disuccinyl tartrate 25322-69-4DP, Polypropylene glycol, reaction products with hydrophobic polymers, functional derivs. 26009-03-0DP, Polyglycolide, reaction products with hydrophobic polymers, functional derivs. 26023-30-3DP, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)], reaction products with aminopolyoxyethylene and disuccinimidyl tartrate 26063-00-3DP, 3-Hydroxybutyric acid homopolymer, reaction products with hydrophilic polymers, functional derivs. 26161-42-2DP, reaction products with aminopolyoxyethylene and disuccinimidyl tartrate 26202-08-4DP, Polyglycolide, reaction products with hydrophobic polymers, functional derivs. 26680-10-4DP, reaction products with aminopolyoxyethylene and disuccinimidyl tartrate 26744-04-7DP, 3-Hydroxybutyric acid homopolymer, sru, reaction products with hydrophilic polymers, functional derivs. 26780-50-7DP, Glycolide-lactide copolymer, reaction products with hydrophilic polymers, functional derivs. 33135-50-1DP, reaction products with aminopolyoxyethylene and disuccinimidyl tartrate 62069-75-4DP, reaction products with block polyester-polyoxyalkylenes

78644-42-5DP, Poly(malic acid), reaction products with hydrophilic polymers, functional derivs. 317366-42-0DP, reaction products with hydrophilic polymers, functional derivs.
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(biodegradable block copolymers with modifiable surfaces)
IT 9002-89-5DP, Poly(vinyl alcohol), reaction products with hydrophobic polymers, functional derivs.
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(biodegradable block copolymers with modifiable surfaces)
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O

H₂C=CH-OH

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 22 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:842028 HCAPLUS

DN 134:21459

TI Bioadhesive hydrogels with functionalized degradable crosslinks

IN Marchant, Nancy S.

PA B.F.Goodrich Company, USA

SO PCT Int. Appl., 47 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000071180	A1	20001130	WO 2000-US11265	20000427
	W:			AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM	
	RW:			GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG	
	US 2002068087	A1	20020606	US 1999-316688	19990521
	US 6514535	B2	20030204		
	CA 2374296	AA	20001130	CA 2000-2374296	20000427
	EP 1178848	A1	20020213	EP 2000-928443	20000427
	R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO	
	JP 2003500491	T2	20030107	JP 2000-619481	20000427
PRAI	US 1999-316688	A	19990521		
	WO 2000-US11265	W	20000427		

- AB This invention relates to a bioadhesive composition comprising two or more essentially excretable, essentially non-degradable polymer backbones, wherein the polymer backbones are crosslinked, said crosslink being degradable in a mammal, said cross-linked bioadhesive composition having an average bioadhesion factor showing bioadhesion equivalent to at least about 100 g s. The concept is to build a hydrogel that demonstrates bioadhesion to a mucosal surface that is crosslinked by a degradable linkage such as disulfide for use inside the body. Free radical polymerization of acrylic acid and bis-acrylamide cystamine produced a polymer which was isolated as a white powder. The viscosity of 0.2% of the polymer in deionized water was 1080.
- IC ICM A61L027-58
ICS A61L027-52; A61L024-00
- CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 38
- ST bioadhesive hydrogel degradable crosslink polyacrylate
- IT Adhesion, biological
Crosslinking agents
(bioadhesive hydrogels with functionalized degradable crosslinks)
- IT Polyamides, biological studies
Polyesters, biological studies
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(bioadhesive hydrogels with functionalized degradable crosslinks)
- IT Disulfides
Esters, reactions
Peptides, reactions
Thiols (organic), reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(bioadhesive hydrogels with functionalized degradable crosslinks)
- IT Adhesives
(biol.; bioadhesive hydrogels with functionalized degradable crosslinks)
- IT Drug delivery systems
(hydrogels; bioadhesive hydrogels with functionalized degradable crosslinks)
- IT Carboxylic acids, biological studies
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(polycarboxylic; bioadhesive hydrogels with functionalized degradable crosslinks)
- IT Vinyl compounds, biological studies
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(polymers; bioadhesive hydrogels with functionalized degradable crosslinks)
- IT 6539-14-6DP, reaction product polyallylamine 9003-01-4P, Polyacrylic acid 9003-05-8P 9003-39-8P, Polyvinyl pyrrolidone 25087-26-7P, Polymethacrylic acid 25249-16-5P 26099-09-2P, Polymaleic acid 30551-89-4DP, reaction product with 2-iminothiolane 30551-89-4P, Polyallylamine 310441-04-4P 310441-05-5P 310441-06-6P 310441-07-7P 310441-08-8P 310441-09-9P 310441-10-2P
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(bioadhesive hydrogels with functionalized degradable crosslinks)
- IT 30551-89-4DP, reaction product with 2-iminothiolane
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(bioadhesive hydrogels with functionalized degradable crosslinks)

crosslinks)

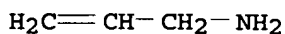
RN 30551-89-4 HCAPLUS

CN 2-Propen-1-amine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-11-9

CMF C3 H7 N



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 23 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:803278 HCAPLUS

DN 134:75968

TI Immobilization of heavy metals from aqueous solutions using
polyacrylamide grafted hydrous tin (IV) oxide gel having carboxylate
functional groups

AU Shubha, K. P.; Raji, C.; Anirudhan, T. S.

CS Department of Chemistry, University of Kerala, Kariavattom, Trivandrum,
695 581, India

SO Water Research (2000), Volume Date 2001, 35(1), 300-310

CODEN: WATRAG; ISSN: 0043-1354

PB Elsevier Science Ltd.

DT Journal

LA English

AB A new adsorbent containing a carboxylate group has been prepared by the surface
modification of a polyacrylamide grafted hydrous tin (IV) oxide gel. The
product exhibits a very high adsorption potential for Pb(II), Hg(II) and
Cd(II). The effect of initial metal ion concentration, adsorbent dose, pH,
concentration of light metal ions, and temperature on metal removal has been studied.
The process follows a first-order rate kinetics. The intraparticle
diffusion of metal ions through pores in the adsorbent was shown to be the
main rate limiting step. The equilibrium data fit well with the Langmuir
adsorption isotherm. The selectivity order of the adsorbent is
Pb(II)°Hg(II)°Cd(II). Adsorption rate consts. and thermodyn.
parameters were also presented to predict the nature of adsorption. The
method was applied on synthetic wastewaters. Acid regeneration has been
tried for several cycles with a view to recover the adsorbed metal ions
and also to restore the sorbent to its original state.

CC 61-3 (Water)

ST polyacrylamide tin oxide gel heavy metal adsorption wastewater

IT Wastewater treatment

(adsorption; immobilization of heavy metals from aqueous solns.
using polyacrylamide grafted hydrous tin (IV) oxide gel having
carboxylate functional groups)

IT Adsorption kinetics

(immobilization of heavy metals from aqueous solns. using
polyacrylamide grafted hydrous tin (IV) oxide gel having carboxylate
functional groups)

IT Heavy metals

RL: PEP (Physical, engineering or chemical process); REM (Removal or
disposal); PROC (Process)

(immobilization of heavy metals from aqueous solns. using
polyacrylamide grafted hydrous tin (IV) oxide gel having carboxylate
functional groups)

IT 7439-92-1, Lead, processes 7439-97-6, Mercury, processes
7440-43-9, Cadmium, processes
RL: PEP (Physical, engineering or chemical process); REM (Removal or disposal); PROC (Process)
(immobilization of heavy metals from aqueous solns. using polyacrylamide grafted hydrous tin (IV) oxide gel having carboxylate functional groups)

IT 9003-05-8D, reaction products with hydrous tin oxide, functionalized with carboxylate groups 13472-47-4D, Tin hydroxide oxide (Sn(OH)2O), reaction products with polyacrylamide, functionalized with carboxylate groups
RL: TEM (Technical or engineered material use); USES (Uses)
(immobilization of heavy metals from aqueous solns. using polyacrylamide grafted hydrous tin (IV) oxide gel having carboxylate functional groups)

IT 7439-92-1, Lead, processes 7439-97-6, Mercury, processes
7440-43-9, Cadmium, processes
RL: PEP (Physical, engineering or chemical process); REM (Removal or disposal); PROC (Process)
(immobilization of heavy metals from aqueous solns. using polyacrylamide grafted hydrous tin (IV) oxide gel having carboxylate functional groups)

RN 7439-92-1 HCAPLUS
CN Lead (8CI, 9CI) (CA INDEX NAME)

Pb

RN 7439-97-6 HCAPLUS
CN Mercury (8CI, 9CI) (CA INDEX NAME)

Hg

RN 7440-43-9 HCAPLUS
CN Cadmium (8CI, 9CI) (CA INDEX NAME)

Cd

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT.

L58 ANSWER 24 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:740676 HCAPLUS
DN 133:354504
TI Kinetics of the simultaneous sorption of nonionic surfactant and copper(II) by polyacrylic acid-functionalized ion exchanger
AU Snukiskis, Julius; Kauspediene, Danute
CS Department of Environmental Chemistry, Institute of Chemistry, Vilnius, 2600, Lithuania
SO Solvent Extraction and Ion Exchange (2000), 18(5), 1001-1013
CODEN: SEIEDB; ISSN: 0736-6299
PB Marcel Dekker, Inc.
DT Journal
LA English

- AB Kinetics of the simultaneous sorption of nonionic surfactant oxyethylated alcs. (OS-20) and copper(II) by hydrogen containing form of Purolite C 106 **polyacrylic acid-functionalized** cation exchanger was investigated: kinetic curves measured, effective coeffs. of intraparticle diffusion (D), effective kinetic coeffs. of the external mass transfer (β) were calculated. The sorption of copper (II) and OS-20 is controlled by the intraparticle diffusion. The diffusion rate depends on the solution acidity, i.e., with increasing acidity, both the rate of copper (II) intraparticle diffusion and the equilibrium sorption decrease, whereas the rate of intraparticle diffusion and the equilibrium sorption of OS-20 increase. The presence of copper (II) results in an increase in OS-20 diffusion rate but leads to a decrease in the equilibrium sorption of OS-20. The action of OS-20 results in the decrease in the equilibrium sorption of copper (II). The simultaneous sorption of oxyethylated alcs. and copper (II) by Purolite C 106 can be applicable to treatment of wastewaters, including copper plating rinse water. A column filled with Purolite C 106 would not limit the productivity if integrated into the system of wastewater treatment by ion exchange.
- CC 60-3 (Waste Treatment and Disposal)
- ST nonionic surfactant copper sorption **polyacrylic acid functionalized** ion exchanger; surfactant copper removal wastewater **polyacrylic acid functionalized** ion exchanger
- IT Wastewater treatment
(adsorption; kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)
- IT Wastewater treatment
(ion exchange; kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)
- IT Mass transfer
Sorption kinetics
(kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)
- IT Surfactants
(nonionic; kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)
- IT Wastewater treatment
(sorption; kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)
- IT 9003-01-4, Polyacrylic acid
RL: MOA (Modifier or additive use); USES (Uses)
(kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)
- IT 144046-63-9, Purolite C 106
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)
- IT 7440-50-8, Copper, processes
RL: PEP (Physical, engineering or chemical process); PRP (Properties); REM (Removal or disposal); PROC (Process)
(kinetics of simultaneous sorption of nonionic surfactant and copper(II) by **polyacrylic acid-functionalized** ion exchanger)

IT 11099-04-0, OS 20
 RL: PEP (Physical, engineering or chemical process); PRP (Properties);
 REM (Removal or disposal); PROC (Process)
 (surfactant; kinetics of simultaneous sorption of nonionic surfactant
 and copper(II) by **polyacrylic acid-**
functionalized ion exchanger)

IT 7440-50-8, Copper, processes
 RL: PEP (Physical, engineering or chemical process); PRP (Properties);
 REM (Removal or disposal); PROC (Process)
 (kinetics of simultaneous sorption of nonionic surfactant and
 copper(II) by **polyacrylic acid-**
functionalized ion exchanger)

RN 7440-50-8 HCAPLUS
 CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 25 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:317100 HCAPLUS

DN 132:335590

TI Water-thinned polyurethane adhesives with good heat and water resistance

IN Tanimoto, Seishi; Kato, Mitsuru; Fujiwara, Naoki; Nakamae, Masato

PA Kuraray Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000136369	A2	20000516	JP 1998-311717	19981102
PRAI	JP 1998-311717		19981102		

AB The adhesive emulsions contain polyurethanes prepared by reacting NCO-containing urethane prepolymers with (a) vinyl alc. polymers having amino, primary OH, and/or acetoacetyl groups, and (b) low-mol. weight compds. having amino or OH group. OH-terminated adipic acid-3-methyl-1,5-**pentanediol** copolymer (Mn 2150, 537.5 g) was polymerized with 111.1 g IPDI and 6.71 g 2,2-bis(hydroxymethyl)propionic acid to give NCO-terminated prepolymer, which was dissolved in MEK, mixed with Et3N, emulsified, and reacted with aqueous solution containing saponified vinyl acetate-vinylformamide copolymer (d.p. 350)

34.0, diethylenetriamine 7.58, and isophorone diamine 12.52 g to give an emulsion. A soft PVC sheet was bonded to plywood using the adhesive to show adhesive strength 5.5 kg/in. When the bonded material was soaked in water for 24 h or left at 80°, the strength was 1.9 and 1 kg/in., resp.

IC ICM C09J175-04

ICS C08G018-00; C08G018-10; C08G018-62; C08G018-65

CC 38-3 (Plastics Fabrication and Uses)

ST water heat resistance adhesive polyurethane emulsion; adipic acid **methylpentanediol** IPDI copolymer adhesive; vinyl alc vinylformamide polyurethane adhesive; diethylenetriamine isophorone diamine polyurethane adhesive

IT Polyurethanes, uses

Polyurethanes, uses

Polyurethanes, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(epoxy-polyester-, thio; water-thinned polyurethane adhesives with good heat and water resistance)

IT Polyesters, uses
Polyesters, uses
Polyesters, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(epoxy-polyurethane-, thio; water-thinned polyurethane adhesives with good heat and water resistance)

IT Adhesives
(heat-resistant; water-thinned polyurethane adhesives with good heat and water resistance)

IT Polyurethanes, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyester-; water-thinned polyurethane adhesives with good heat and water resistance)

IT Polyurethanes, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyester-polyoxyalkylene-; water-thinned polyurethane adhesives with good heat and water resistance)

IT Epoxy resins, uses
Epoxy resins, uses
Epoxy resins, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyester-polyurethane-, thio; water-thinned polyurethane adhesives with good heat and water resistance)

IT Adhesives
(water-resistant; water-thinned polyurethane adhesives with good heat and water resistance)

IT Adhesives
(water-thinned; water-thinned polyurethane adhesives with good heat and water resistance)

IT 60-24-2DP, 2-Mercaptoethanol, reaction products with vinyl acetate polymer, saponified, polymers with functional group-containing monomers, salts 107-15-3DP, Ethylenediamine, polymers with functional group-containing monomers, salts 111-40-0DP, Diethylenetriamine, polymers with functional group-containing monomers, salts 121-44-8DP, Triethylamine, salts with polyester-polyurethanes 124-04-9DP, Adipic acid, polymers with functional group-containing monomers, salts 137-07-5DP, 2-Aminothiophenol, reaction products with vinyl acetate polymer, saponified, polymers with functional group-containing monomers, salts 584-84-9DP, 2,4-Tolylene diisocyanate, polymers with functional group-containing monomers, salts 674-82-8DP, Diketene, reaction products with poly(vinyl alc.), polymers, salts 2224-15-9DP, Ethylene glycol diglycidyl ether, polymers with functional group-containing monomers, salts 2855-13-2DP, Isophorone diamine, polymers with functional group-containing monomers, salts 4098-71-9DP, IPDI, polymers with functional group-containing monomers, salts 4457-71-0DP, 3-Methyl-1,5-pentanediol, polymers with functional group-containing monomers, salts 4767-03-7DP, 2,2-Bis(hydroxymethyl)propionic acid, polymers with functional group-containing monomers, salts 5124-30-1DP, Methylenebis(4-cyclohexyl isocyanate), polymers with functional group-containing monomers, salts 7417-99-4DP, 4,4'-Bis(ethyleneiminocarbonylamino)diphenylmethane, polymers with functional group-containing monomers, salts 7426-74-6DP, 2,2'-Ethylenebis(2-oxazoline),

polymers with functional group-containing monomers, salts 9002-89-5DP, Poly(vinyl alcohol), acetoacetylated, polymers with functional group-containing monomers, salts 25190-06-1DP, Polytetramethylene glycol, polymers with functional group-containing monomers, salts 25248-42-4DP, Polycaprolactone, sru, diol derivs., polymers with functional group-containing monomers, salts 28432-21-5DP, Methylvinylacetamide-vinyl acetate copolymer, saponified, polymers with functional group-containing monomers, salts 31048-51-8DP, Allyl glycidyl ether-vinyl acetate copolymer, reaction products, saponified, polymers with functional group-containing monomers, salts 39751-34-3DP, Adipic acid-3-methyl-1,5-pentanediol copolymer, polymers with functional group-containing monomers, salts 108941-57-7DP, Vinyl acetate-N-vinylformamide copolymer, saponified, polymers with functional group-containing monomers, salts 145379-20-0P, Burnock CR 60N

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(water-thinned polyurethane adhesives with good heat and water resistance)

IT 9002-89-5DP, Poly(vinyl alcohol), acetoacetylated, polymers with functional group-containing monomers, salts

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(water-thinned polyurethane adhesives with good heat and water resistance)

RN 9002-89-5 HCAPLUS

CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O

H₂C=CH-OH

L58 ANSWER 26 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:207656 HCAPLUS

DN 132:309164

TI A spectroscopic study of Cu(II)-complexes of chelating resins containing nitrogen and sulfur atoms in the chelating groups

AU Cobianco, S.; Lezzi, A.; Scotti, R.

CS EniTecnologie S.p.A., San Donato, I-20096, Italy

SO Reactive & Functional Polymers (2000), 43(1,2), 7-16

CODEN: RFPOF6; ISSN: 1381-5148

PB Elsevier Science B.V.

DT Journal

LA English

AB The structure of Cu(II)-thiol, dithiocarbamate, methylthiourea and amino complexes was elucidated from spectroscopic property data. The influence of the chemical functional groups and spacers on chelating activity of amino and sulfur group containing resins towards Cu(II) ions in diluted solution was evaluated. The resins are macroporous chloromethylated poly(styrene-divinylbenzene) functionalized with two spacer groups, poly(ethylene glycol) and poly(ethylene imine) chains, supporting thiol, dithiocarbamate, methylthiourea and amino groups. ESR (EPR) was used to study the coordination of Cu(II) ions in the complexes. The Cu(II)-dithiocarbamate complexes have square planar coordination with two dithiocarbamate groups bound to the metal. The resins with

methylthiourea as functional group form Cu(II)-complexes in tetragonal symmetry with four nitrogen atoms as equatorial ligands. Partial reduction of Cu(II) to diamagnetic Cu(I) leads to formation of Cu(I)-methylthiourea complexes, where copper is S-bonded to the methylthiourea group. In Cu(II)-thiol complexes, Cu(II) ions are bound through sulfur bridges.

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 54

ST copper complex functionalized chelating resin structure; thio amino functionalized chelating resin complexation copper; styrene divinylbenzene copolymer resin functionalized chain; polyethylene glycol chain functionalized chelating resin; polyethyleneimine functionalized chelating resin amino thio group

IT Polyoxyalkylenes, uses

RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(amino- and thio-functionalized, reaction products with chloromethylated poly(divinylbenzene-styrene); structure of Cu(II)-amino- and thio-functionalized chelating resin complexes for selective separation of metals)

IT Adsorption

Chelating agents

Chelation

Molecular structure

(structure of Cu(II)-amino- and thio-functionalized chelating resin complexes for selective separation of metals)

IT 7440-50-8, Copper, processes

RL: PEP (Physical, engineering or chemical process); PROC (Process)

(structure of Cu(II)-amino- and thio-functionalized chelating resin complexes for selective separation of metals)

IT 75-15-0DP, Carbon disulfide, reaction products with poly(ethylene imine)

and chloromethylated poly(divinylbenzene-styrene), preparation

594-07-0P, Carbamodithioic acid 9002-98-6DP, amino- and thio-

functionalized, reaction products with chloromethylated

poly(divinylbenzene-styrene) 9003-70-7DP, Divinylbenzene-styrene

copolymer, chloromethylated, reaction products with amino- and

thio-functionalized poly(ethylene imine) 26913-06-4DP,

Poly[imino(1,2-ethanediyl)], amino- and thio-**functionalized**,

reaction products with chloromethylated poly(divinylbenzene-styrene)

RL: PEP (Physical, engineering or chemical process); PNU (Preparation,

unclassified); TEM (Technical or engineered material use); PREP

(Preparation); PROC (Process); USES (Uses)

(structure of Cu(II)-amino- and thio-**functionalized** chelating resin complexes for selective separation of metals)

IT 25322-68-3D, Poly(ethylene glycol), amino- and thio-functionalized,

reaction products with chloromethylated poly(divinylbenzene-styrene)

RL: PEP (Physical, engineering or chemical process); TEM (Technical or

engineered material use); PROC (Process); USES (Uses)

(structure of Cu(II)-amino- and thio-functionalized chelating resin complexes for selective separation of metals)

IT 9002-98-6DP, amino- and thio-**functionalized**, reaction

products with chloromethylated poly(divinylbenzene-styrene)

26913-06-4DP, Poly[imino(1,2-ethanediyl)], amino- and thio-

functionalized, reaction products with chloromethylated

poly(divinylbenzene-styrene)

RL: PEP (Physical, engineering or chemical process); PNU (Preparation,

unclassified); TEM (Technical or engineered material use); PREP

(Preparation); PROC (Process); USES (Uses)

(structure of Cu(II)-amino- and thio-**functionalized** chelating resin complexes for selective separation of metals)

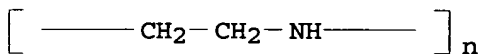
RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N



RN 26913-06-4 HCAPLUS
CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 27 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:133741 HCAPLUS
DN 132:167158
TI Method and materials for fabrication of polymers having alumoxane linkages
IN Cook, Ronald Lee; Barron, Andrew Ross; Gleason, Kevin Joseph; MacQueen,
David Brent; Siparsky, Georgette Laila; Koide, Yoshihiro
PA Wm. Marsh Rice University, USA; Tda Research, Inc.
SO PCT Int. Appl., 60 pp.
CODEN: PIXXD2

DT Patent
LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000009578	A1	20000224	WO 1999-US18007	19990813
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 6369183	B1	20020409	US 1998-133642	19980813
	EP 1200498	A1	20020502	EP 1999-942051	19990813
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	US 2002177685	A1	20021128	US 2002-119371	20020408
PRAI	US 1998-133642	A	19980813		
	WO 1999-US18007	W	19990813		
AB	Title polymers are manufactured by reaction of carboxylate-alumoxanes that are functionalized with a chemical reactive substituent and a multifunctional compound that reacts with the reactive substituent on the carboxylate-alumoxane. The functional groups on the carboxylate-alumoxane can vary depending on the desired properties of the matrix. Also, the composition of matter may comprise a crosslinked matrix in which the crosslinked components consist of functionalized alumoxanes. A typical functionalized carboxylate-alumoxane was manufactured by refluxing of boehmite having particle size 40-70 nm [prepared from aluminum tris(sec-butoxide)] with 4-hydroxybenzoic acid in a 1:1 ratio in water overnight.				
IC	ICM C08F283-00				

ICS C08F283-04; C08F006-00; C08G065-32; C08G008-28; C08G059-14;
C08G018-08; C08G059-00; C08G059-40; C08G002-00; C08G063-02;
C08G063-06; C08G079-00

CC 37-3 (Plastics Manufacture and Processing)

ST alumoxane crosslinked polymer manuf; hydroxybenzoate boehmite manuf;
nanocomposite alumoxane polymer manuf

IT Aluminoxanes
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP
(Preparation); USES (Uses)
(esters, with functionalized carboxylic acids; fabrication of polymers
having alumoxane (cross)links using functionalized carboxylate-
alumoxanes with nanometer particle size)

IT Crosslinking agents
Hybrid organic-inorganic materials
Nanocomposites
(fabrication of polymers having alumoxane (cross)links using
functionalized carboxylate-alumoxanes with nanometer particle size)

IT Polyamides, preparation
Polycarbonates, preparation
Polyesters, preparation
Polyimides, preparation
Polysulfones, preparation
Polyurethanes, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(fabrication of polymers having alumoxane (cross)links using
functionalized carboxylate-alumoxanes with nanometer particle size)

IT Epoxy resins, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
(Properties); PREP (Preparation); USES (Uses)
(fabrication of polymers having alumoxane (cross)links using
functionalized carboxylate-alumoxanes with nanometer particle size)

IT Monomers
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)
(fabrication of polymers having alumoxane (cross)links using
functionalized carboxylate-alumoxanes with nanometer particle size)

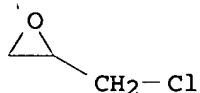
IT Polyketones
Polyketones
RL: IMF (Industrial manufacture); PREP (Preparation)
(polyamine-; fabrication of polymers having alumoxane (cross)links
using functionalized carboxylate-alumoxanes with nanometer particle
size)

IT Polyketones
Polyketones
RL: IMF (Industrial manufacture); PREP (Preparation)
(polyimide-; fabrication of polymers having alumoxane (cross)links
using functionalized carboxylate-alumoxanes with nanometer particle
size)

IT Polyamines
Polyamines
Polyimides, preparation
Polyimides, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(polyketone-; fabrication of polymers having alumoxane (cross)links
using functionalized carboxylate-alumoxanes with nanometer particle
size)

IT 2269-22-9, Aluminum tris(sec-butoxide)
RL: RCT (Reactant); RACT (Reactant or reagent)
(alumoxane precursor; fabrication of polymers having alumoxane
(cross)links using functionalized carboxylate-alumoxanes with nanometer

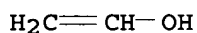
- particle size)
- IT 57-13-6DP, Urea, polymers with hydroxybenzoate-alumoxane, preparation 88-95-9DP, Phthaloyl chloride, polymers with diaminohexanoate- or diphenolato-aluminoxane 101-68-8DP, MDI, polymers with dimethylolpropionate-aluminoxane 106-51-4DP, 2,5-Cyclohexadiene-1,4-dione, polymers with diaminohexanoate-aluminoxane, preparation 106-89-8DP, Epichlorohydrin, polymers with hydroxybenzoate-alumoxane 111-20-6DP, Sebacic acid, polymers with (methoxyethoxy)ethoxyacetate-alumoxane 2479-49-4DP, 3,3',4,4'-Benzophenonetetracarboxylic acid, polymers with aminobenzoate-aluminoxane 9002-89-5DP, Polyvinyl alcohol, reaction products with (methoxyethoxy)ethoxyacetate-alumoxane
- RL: IMF (Industrial manufacture); PREP (Preparation)
(fabrication of polymers having alumoxane (cross)links using **functionalized** carboxylate-alumoxanes with nanometer particle size)
- IT 50-21-5DP, Lactic acid, esters with alumoxanes 56-40-6DP, Aminoacetic acid, esters with alumoxanes 56-87-1DP, Lysine, esters with alumoxanes 60-32-2DP, 6-Aminohexanoic acid, esters with alumoxanes 79-14-1DP, Hydroxyacetic acid, esters with alumoxanes 79-41-4DP, Methacrylic acid, esters with alumoxanes 99-96-7DP, 4-Hydroxybenzoic acid, esters with alumoxanes 150-13-0DP, 4-Aminobenzoic acid, esters with alumoxanes 4767-03-7DP, 2,2-Bis(hydroxymethyl)propionic acid, esters with alumoxanes 258833-34-0DP, 2,2-Bis(hydroxyphenyl)valeric acid, esters with alumoxanes
- RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)
- IT 526-95-4D, Gluconic acid, esters with alumoxanes 16024-58-1D, 2-(2-Methoxyethoxy)ethoxyacetic acid, esters with alumoxanes
- RL: MOA (Modifier or additive use); USES (Uses)
(fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)
- IT 122-60-1D, 1,2-Epoxy-3-phenoxypropane, polymers with hydroxybenzoate-alumoxane 25085-98-7, ERL 4221 174794-97-9, Epi-Rez 5522WY55 259136-93-1, HTR 212
- RL: POF (Polymer in formulation); USES (Uses)
(fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)
- IT 25085-99-8, DER 332
- RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)
- IT 24623-77-6P, Aluminum oxide hydroxide
- RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomer/crosslinker precursor; fabrication of polymers having alumoxane (cross)links using functionalized carboxylate-alumoxanes with nanometer particle size)
- IT 106-89-8DP, Epichlorohydrin, polymers with hydroxybenzoate-alumoxane 9002-89-5DP, Polyvinyl alcohol, reaction products with (methoxyethoxy)ethoxyacetate-alumoxane
- RL: IMF (Industrial manufacture); PREP (Preparation)
(fabrication of polymers having alumoxane (cross)links using **functionalized** carboxylate-alumoxanes with nanometer particle size)
- RN 106-89-8 HCAPLUS
- CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)



RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 28 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:65341 HCAPLUS

DN 132:108816

TI Water-soluble polymers having pendant derivatized amide functionalities
for corrosion and scale control

IN Carter, Phillip W.; Morris, John D.; Reed, Peter E.; Tang, Jiansheng;
Wang, Jin-shan; Young, Paul R.

PA Nalco Chemical Co., USA

SO U.S., 10 pp., Cont.-in-part of U.S. 5,726,267.

CODEN: USXXAM

DT Patent

LA English

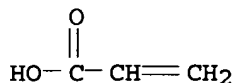
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6017994	A	20000125	US 1997-884154	19970627
	US 5726267	A	19980310	US 1997-792610	19970131
	AU 9865998	A1	19990107	AU 1998-65998	19980515
	EP 887316	A1	19981230	EP 1998-304984	19980624
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	SG 75853	A1	20001024	SG 1998-1516	19980624
	CA 2241617	AA	19981227	CA 1998-2241617	19980626
	CN 1203889	A	19990106	CN 1998-115289	19980626
	BR 9802297	A	19991005	BR 1998-2297	19980626
	JP 11070398	A2	19990316	JP 1998-182027	19980629
	TW 460420	B	20011021	TW 1998-87110374	19980922
	US 2002065358	A1	20020530	US 1999-333384	19990615
PRAI	US 1997-792610	A2	19970131		
	US 1997-884154	A	19970627		

AB The title control methods use water-soluble copolymers having residues of acrylic acid, acrylamide, etc. and pendant derivatized amide functionalities CH(R₆)C(R₅)CON(R₁)(CHR₂CHR₃Het₁)p(CHR₂CHR₃Het₂)qR₄ (R₁₋₆ = H; p, q = 1; Het₁ = N and Het₂ = O) for scale [calcium phosphate, zinc phosphate, iron(hydr)oxide, aluminum hydroxide, calcium sulfate, magnesium phosphate, calcium sulfate, calcium oxalate and calcium carbonate] control. Corrosion and scale deposition in aqueous media is prevented by water-soluble polymers having pendant derivatized amide functionalities for scale inhibition, e.g., ammonium acrylate-N-(2-hydroxyethoxy)acrylamide copolymer.

IC ICM C08L039-00
INCL 524555000
CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 61
ST water soluble polymer scale control; ammonium acrylate copolymer scale control; hydroxyethoxy acrylamide copolymer scale control
IT Scale (deposits)
(control; water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT Silt
(scale; water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT Clays, miscellaneous
RL: MSC (Miscellaneous)
(scale; water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT Biocides
Cooling water
Corrosion inhibitors
(water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT Polymers, preparation
RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PREP (Preparation); USES (Uses)
(water-soluble; water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT 471-34-1, Calcium carbonate, miscellaneous 546-93-0, Magnesium carbonate 1309-33-7, Iron hydroxide (Fe(OH)3) 1309-37-1, Iron oxide, miscellaneous 7727-43-7, Barium sulfate 7757-86-0 7757-93-9 7779-90-0, Zinc phosphate 21645-51-2, Aluminum hydroxide, miscellaneous
RL: MSC (Miscellaneous)
(scale; water-soluble polymers having pendant derivatized amide functionalities for scale control)
IT 111-41-1DP, reaction products with acrylamide-sodium acrylate copolymer 141-43-5DP, Ethanolamine, reaction products with acrylamide-acrylic acid copolymer 929-06-6DP, reaction products with poly(acrylic acid) 1336-21-6DP, Ammonium Hydroxide, reaction products with poly(acrylic acid) 9003-01-4DP, Poly(acrylic acid), reaction products with aminoethoxyethanol and ammonium hydroxide 9003-05-8DP, Polyacrylamide, reaction products with aminoethoxyethanol 9003-06-9DP, Acrylamide-acrylic acid copolymer, reaction products with aminoethoxyethanol 25085-02-3DP, Acrylamide-sodium acrylate copolymer, reaction products with aminoethoxyethanol 26100-47-0DP, Acrylamide-ammonium acrylate copolymer, reaction products with aminoethoxyethanol 34447-10-4DP, reaction products with acrylamide-sodium acrylate copolymer 83713-01-3DP, Jeffamine M 1000, reaction products with acrylamide-sodium acrylate copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(water-soluble polymers having pendant derivatized amide functionalities for corrosion and scale control)
IT 9003-01-4DP, Poly(acrylic acid), reaction products with aminoethoxyethanol and ammonium hydroxide
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(water-soluble polymers having pendant derivatized amide functionalities for corrosion and scale control)
RN 9003-01-4 HCAPLUS
CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
CMF C3 H4 O2

RE.CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 29 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:408084 HCAPLUS
DN 131:175024
TI Functionalized nanoparticles for endotoxin binding in **aqueous**
solutions
AU Darkow, R.; Groth, Th.; Albrecht, W.; Lutzow, K.; Paul, D.
CS GKSS Res. Center, Inst. Chemistry, Teltow, D-14513, Germany
SO Biomaterials (1999), 20(14), 1277-1283
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier Science Ltd.
DT Journal
LA English
AB Nanoparticles consisting of a polystyrene core and a polyglycidyl
methacrylate shell were prepared by a 2-step emulsion polymerization. The size and
surface properties of the particles were characterized by SEM, dynamic
light scattering and polyelectrolyte titration techniques. Particles were
monodisperse with a mean diameter of about 85 nm. Parent particles were
modified with a number of different ligands including diamines of increasing
chain length, amino acids and corresponding amines and higher mol. weight
ligands like polymyxin B. The modified particles were tested
for their endotoxin (ET) binding capacity in **water** and **physiol.**
sodium chloride solution by the Limulus amebocyte lysate (LAL) assay. The ET
binding properties of the different ligands depend both on the ability of
the ligand to form Coulomb- and van der Waals-interactions with the ET
mol. influence by the nature of the suspension medium. Therefore, the
choice of ligands for particle modification has to consider minutely the
conditions under which ET has to be **removed**, e.g.,
removal from pure **water**, dialysis fluids, plasma or
blood.
CC 63-7 (Pharmaceuticals)
ST nanoparticle endotoxin binding polymer; amine polymer nanoparticle
endotoxin binding
IT Toxins
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(endotoxins; functionalized nanoparticles for endotoxin binding in
aqueous solns.)
IT Limulus
Nanoparticles
Particle size distribution
(functionalized nanoparticles for endotoxin binding in **aqueous**
solns.)
IT 124752-62-1DP, Glycidyl methacrylate-styrene graft copolymer, reaction
products with amines
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)

(core-shell; functionalized nanoparticles for endotoxin binding in aqueous solns.)

IT 51-45-6DP, Histamine, reaction products with polymers 56-87-1DP, L-Lysine, reaction products with polymers, biological studies 61-54-1DP, Tryptamine, reaction products with polymers 71-00-1DP, L-Histidine, reaction products with polymers, biological studies 73-22-3DP, Tryptophan, reaction products with polymers 107-15-3DP, Ethylenediamine, reaction products with polymers 124-09-4DP, Hexamethylenediamine, reaction products with polymers 124-22-1DP, Dodecylamine, reaction products with polymers 136-47-0DP, reaction products with polymers 1404-26-8DP, Polymyxin B, reaction products with polymers 9002-98-6DP, reaction products with polymers
 RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (functionalized nanoparticles for endotoxin binding in aqueous solns.)

IT 9002-98-6DP, reaction products with polymers
 RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (functionalized nanoparticles for endotoxin binding in aqueous solns.)

RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 30 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:311154 HCAPLUS

DN 130:326787

TI System for extracting soluble heavy metals from liquid solutions, especially aqueous solutions

IN Rosenberg, Edward; Pang, David

PA The University of Montana, USA

SO PCT Int. Appl., 48 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9922933	A1	19990514	WO 1997-US19879	19971103
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2306964	AA	19990514	CA 1997-2306964	19971103
EP 1028845	A1	20000823	EP 1997-946441	19971103
EP 1028845	B1	20050406		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

JP 2001521822	T2	20011113	JP 2000-518836	19971103
AT 292558	E	20050415	AT 1997-946441	19971103
PRAI WO 1997-US19879	A	19971103		

AB Ions of dissolved heavy metals and complex heavy metals are removed from process solns. and other aqueous solns. by contacting with an extraction material having an activated surface with affinity for heavy metal ions. The activated surface is the reaction product of a support such as silica gel containing a covalently bound trifunctional hydrocarbylsilyl group with a polyamine that yields non-crosslinked amino groups to which functional chelator groups can be covalently attached. The activated surface of the extraction material is formed by hydrating the support surface and then silanizing the hydrated surface with a short chain trifunctional silane having a Cl-6-hydrocarbon substituent and a terminal leaving group, e.g., bromopropyltrichlorosilane. The treated surface is then reacted with a polyamine, e.g., polyethyleneimine, to form an aminohydrocarbylsilyl polymer covalently bound to the extraction material surface.

IC ICM B32B001-10
ICS B01D015-00; C02F001-28

CC 48-1 (Unit Operations and Processes)
Section cross-reference(s): 60, 61

ST heavy metal removal functionalized chelating sorbent

IT Sorbents
Sorbents
(chelating; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated waters)

IT Water purification
(chelation-sorption; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated waters)

IT Wastewater treatment
Wastewater treatment
(complexation; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated waters)

IT Carboxyl group
(functionalized extraction agents containing; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated waters)

IT Sulfides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(functionalized extraction agents containing; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated waters)

IT Arsenates
Chromates
Heavy metals
RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)
(functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated waters)

IT Silica gel, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(functionalized, chelating sorbents; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated waters)

IT Polyamines
RL: TEM (Technical or engineered material use); USES (Uses)
(silanized hydrated support reaction products with, functionalized, extraction agents; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated waters)

IT Chelating agents
Chelating agents
(sorbents; functionalized sorbents for extracting soluble heavy metals from liquid solns. and contaminated waters)

IT Silanes
RL: TEM (Technical or engineered material use); USES (Uses)
(trifunctional, hydrated support reaction products with, aminated,
functionalized, extraction agents; functionalized sorbents for extracting soluble
heavy metals from liquid solns. and contaminated waters)

IT 7439-92-1, Lead, processes 7439-97-6,
Mercury, processes 7440-43-9, Cadmium,
processes
RL: POL (Pollutant); REM (Removal or disposal); OCCU
(Occurrence); PROC (Process)
(functionalized sorbents for extracting soluble heavy metals from liquid solns.
and contaminated waters)

IT 79-08-3D, Bromoacetic acid, aminated silanized hydrated support reaction
products 420-12-2D, Ethylene sulfide, aminated silanized hydrated
support reaction products 9002-98-6D, silanized hydrated support
reaction products, functionalized 13883-39-1D,
3-Bromopropyltrichlorosilane, hydrated support reaction products,
aminated, functionalized
RL: TEM (Technical or engineered material use); USES (Uses)
(functionalized sorbents for extracting soluble heavy metals from
liquid solns. and contaminated waters)

IT 7439-92-1, Lead, processes 7439-97-6,
Mercury, processes 7440-43-9, Cadmium,
processes
RL: POL (Pollutant); REM (Removal or disposal); OCCU
(Occurrence); PROC (Process)
(functionalized sorbents for extracting soluble heavy metals from liquid solns.
and contaminated waters)

RN 7439-92-1 HCAPLUS
CN Lead (8CI, 9CI) (CA INDEX NAME)

Pb

RN 7439-97-6 HCAPLUS
CN Mercury (8CI, 9CI) (CA INDEX NAME)

Hg

RN 7440-43-9 HCAPLUS
CN Cadmium (8CI, 9CI) (CA INDEX NAME)

Cd

IT 9002-98-6D, silanized hydrated support reaction products,
functionalized
RL: TEM (Technical or engineered material use); USES (Uses)
(functionalized sorbents for extracting soluble heavy metals from
liquid solns. and contaminated waters)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



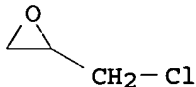
RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 31 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:159998 HCAPLUS
DN 130:349027
TI Functionalised cross-linked polyvinyl alcohol as new matrix for lipase immobilization
AU Cernia, E.; Milana, G.; Ortaggi, G.; Palocci, C.; Soro, S.
CS Department of Chemistry, University of Rome "La Sapienza", Rome, 00185, Italy
SO Progress in Biotechnology (1998), 15(Stability and Stabilization of Biocatalysis), 667-671
CODEN: PBITE3; ISSN: 0921-0423
PB Elsevier Science B.V.
DT Journal
LA English
AB The authors report here preparation of new cross-linked polyvinyl alc. as new matrix for lipase immobilization.
CC 7-7 (Enzymes)
ST enzyme immobilization lipase polyvinyl alc
IT Immobilization, biochemical
(enzyme; functionalized cross-linked polyvinyl alc. as new matrix for lipase immobilization)
IT 9001-62-1, Lipase 9001-62-1D, Lipase, immobilized
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PROC (Process)
(functionalized cross-linked polyvinyl alc. as new matrix for lipase immobilization)
IT 75-98-9D, Pivalic acid, reaction products with poly(vinyl alc) cross-linked with epichlorohydrin 106-89-8D, Epichlorohydrin, reaction products with poly(vinyl alc.) and esterified with fatty acids 112-80-1D, Oleic acid, reaction products with poly(vinyl alc) cross-linked with epichlorohydrin 143-07-7D, Lauric acid, reaction products with poly(vinyl alc) cross-linked with epichlorohydrin 9002-89-5D, Poly(vinyl alcohol), reaction products with epichlorohydrin and esterified with fatty acids 22075-86-1D, 12-Chloro-dodecanoic acid, reaction products with poly(vinyl alc) cross-linked with epichlorohydrin 73367-80-3D, 12-Bromo-dodecanoic acid, reaction products with poly(vinyl alc) cross-linked with epichlorohydrin
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(functionalized cross-linked polyvinyl alc. as new matrix for lipase immobilization)
IT 106-89-8D, Epichlorohydrin, reaction products with poly(vinyl alc.) and esterified with fatty acids 9002-89-5D, Poly(vinyl alcohol), reaction products with epichlorohydrin and esterified with fatty acids
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(functionalized cross-linked polyvinyl alc. as new matrix for

lipase immobilization)

RN 106-89-8 HCAPLUS

CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)



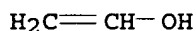
RN 9002-89-5 HCAPLUS

CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 32 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:29519 HCAPLUS

DN 130:183217

TI Patterning Thin Films of Poly(ethylene imine) on a Reactive SAM Using Microcontact Printing

AU Yan, Lin; Huck, Wilhelm T. S.; Zhao, Xiao-Mei; Whitesides, George M.

CS Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA, 02138, USA

SO Langmuir (1999), 15(4), 1208-1214

CODEN: LANGD5; ISSN: 0743-7463

PB American Chemical Society

DT Journal

LA English

AB Patterning of poly(ethylene imine) (PEI) on a surface into structures having submicron edge resolution was carried out to obtain thin films useful in mol. electronics, optical devices, sensors, and tissue engineering. The procedure consists of three steps: (1) formation of a reactive self-assembled monolayer (SAM) terminating in interchain carboxylic anhydride groups on gold and **silver**; (2) patterning of this SAM by microcontact printing (μ CP) using a poly(dimethylsiloxane) (PDMS) stamp inked with PEI; (3) hydrolysis of the unreacted anhydride groups with base and **removal** of noncovalently bound PEI. The PEI contains primary and secondary amines that are reactive toward the anhydride groups. The patterned thin films of PEI are attached covalently to the SAM via amide bonds. The pendant, unreacted primary and secondary amines of the attached PEI can be used as reactive nucleophilic groups in further steps of chemical modification. This type of post-modification was illustrated by allowing the amine groups of the covalently attached PEI to react with perfluorooctanoyl chloride, palmitoyl chloride, palmitic anhydride, and poly(styrene-alt-maleic anhydride). The PEI films and their derivs. were characterized using atomic force microscopy (AFM), SEM, polarized IR external reflectance spectroscopy (PIERS), contact angles of **water**, and XPS.

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 73

- ST polyethyleneimine patterning microcontact printing self assembled monolayer; polydimethylsiloxane stamp microcontact printing patterning polyethyleneimine; amine group attached patterned polyethyleneimine modification
- IT Contact angle
Optical films
Surface composition
Wetting
(patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)
- IT Polyimides, properties
Polyimides, properties
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(polyether-; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)
- IT Polyethers, properties
Polyethers, properties
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(polyimide-; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)
- IT Self-assembled monolayers
(reactive; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)
- IT Polysiloxanes, uses
RL: NUU (Other use, unclassified); USES (Uses)
(stamp; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)
- IT Polymer morphology
(surface, patterning; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)
- IT 9002-98-6D, reaction products 26913-06-4D, Poly[imino(1,2-ethanediyl)], reaction products
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)
- IT 112-67-4D, Palmitoyl chloride, reaction products with PEI, surface compds. 335-64-8D, Perfluorooctanoyl chloride, reaction products with PEI, surface compds. 623-65-4D, Palmitic anhydride, reaction products with PEI, surface compds. 106209-33-0D, Maleic anhydride-styrene-alternating copolymer, reaction products with PEI, surface compds.
RL: PRP (Properties)
(patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)
- IT 9016-00-6, Di-Me siloxane, SRU 31900-57-9, Dimethylsilanediol homopolymer
RL: NUU (Other use, unclassified); USES (Uses)
(stamp; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)
- IT 7440-21-3, Silicon, uses 7440-32-6, Titanium, uses 7440-57-5, Gold, uses

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(substrate; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

IT 69839-68-5, 16-Mercaptohexadecanoic acid
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(surface reactive species; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

IT 121-44-8, uses 407-25-0, Trifluoroacetic anhydride
RL: NUU (Other use, unclassified); USES (Uses)
(surface treatment reagent; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

IT 9002-98-6D, reaction products 26913-06-4D, Poly[imino(1,2-ethanediyl)], reaction products
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

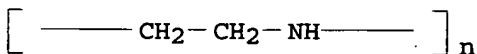
RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N



RN 26913-06-4 HCAPLUS
CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



IT 7440-21-3, Silicon, uses
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(substrate; patterning thin films of poly(ethylene imine) on reactive SAM by microcontact printing and further functionalization of patterned films)

RN 7440-21-3 HCAPLUS
CN Silicon (7CI, 8CI, 9CI) (CA INDEX NAME)

Si

RE.CNT 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 33 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:684882 HCAPLUS

DN 129:290529

TI Polymers with terminal thiol functionality

IN Maignan, Jean

PA L'Oreal, Fr.

SO PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9844024	A1	19981008	WO 1998-FR620	19980326
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	FR 2761691	A1	19981009	FR 1997-4085	19970403
	FR 2761691	B1	19990514		
	CA 2284896	AA	19981008	CA 1998-2284896	19980326
	AU 9870522	A1	19981022	AU 1998-70522	19980326
	EP 971972	A1	20000119	EP 1998-917248	19980326
	EP 971972	B1	20040414		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2000509763	T2	20000802	JP 1998-541234	19980326
	JP 3413212	B2	20030603		
	BR 9815464	A	20010731	BR 1998-15464	19980326
	AT 264357	E	20040415	AT 1998-917248	19980326
	ES 2219884	T3	20041201	ES 1998-917248	19980326
	MX 9908947	A	20000131	MX 1999-8947	19990929
	US 6395867	B1	20020528	US 2000-402201	20000121
PRAI	FR 1997-4085	A	19970403		
	WO 1998-FR620	W	19980326		

AB Hyperbranched polymers or dendrimers, useful as antioxidants, comprise terminal functional groups XC(Y)ASH [A = (un)substituted C1-C12 (cyclo)alkanediyl, optionally unsatd. and/or interrupted by hetero atom(s); X = nucleophilic group; Y = O, NH]. Thus, generation 1 PAMAM dendrimer was treated with an equivalent amount of γ -thiobutyrolactone to prepare a dendritic compound with 8 terminal SH groups.

IC ICM C08G083-00

ICS A61K007-48

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 62

ST antioxidant dendritic polymercaptan; polyamide polyamine dendrimer thiol terminated

IT Antioxidants

Reducing agents

(dendritic or hyperbranched polymers with terminal thiol functionality as)

IT Cosmetics

(dendritic or hyperbranched polymers with terminal thiol functionality in)

IT Polyamines

Polyamines
Polyamines
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-, dendrimers, reaction products with thiobutyrolactone; preparation of dendritic or hyperbranched polymers with terminal **thiol** functionality as antioxidants)

IT Dendritic polymers
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-polyamines, reaction products with thiobutyrolactone; preparation of dendritic or hyperbranched polymers with terminal **thiol** functionality as antioxidants)

IT Polyamides, preparation
Polyamides, preparation
Polyamides, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamine-, dendrimers, reaction products with thiobutyrolactone; preparation of dendritic or hyperbranched polymers with terminal **thiol** functionality as antioxidants)

IT Polyamines
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of dendritic or hyperbranched polymers with terminal **thiol** functionality as antioxidants)

IT 26937-01-9DP, PAMAM, reaction products with thiobutyrolactone
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(dendritic; preparation of dendritic or hyperbranched polymers with terminal **thiol** functionality as antioxidants)

IT 1003-10-7DP, γ -Thiobutyrolactone, reaction products with dendritic polyamines 9002-98-6DP, Polyethylenimine, reaction products with thiobutyrolactone 142986-44-5DP, reaction products with thiobutyrolactone 214335-17-8P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of dendritic or hyperbranched polymers with terminal **thiol** functionality as antioxidants)

IT 1003-10-7, γ -Thiobutyrolactone 142986-44-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of dendritic or hyperbranched polymers with terminal **thiol** functionality as antioxidants)

IT 9002-98-6DP, Polyethylenimine, reaction products with thiobutyrolactone
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of dendritic or hyperbranched polymers with terminal **thiol** functionality as antioxidants)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 34 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1997:501561 HCAPLUS

DN 127:126302

TI Method for identifying and quantifying polymers utilizing immunoassay techniques

IN Keller, Lorraine Holowach; Weinstein, Barry

PA Rohm and Haas Company, USA

SO Eur. Pat. Appl., 8 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 785431	A1	19970723	EP 1997-300221	19970115
	EP 785431	B1	20020529		
	R: BE, DE, ES, FR, GB, IT, NL				
	ZA 9700248	A	19970718	ZA 1997-248	19970113
	NO 9700167	A	19970721	NO 1997-167	19970115
	AU 9710163	A1	19970724	AU 1997-10163	19970115
	AU 705491	B2	19990520		
	CA 2195288	AA	19970719	CA 1997-2195288	19970116
	BR 9700705	A	19980818	BR 1997-705	19970116
	US 6197522	B1	20010306	US 1997-783727	19970116
	JP 09218199	A2	19970819	JP 1997-17683	19970117
	CN 1165298	A	19971119	CN 1997-102272	19970117
	TW 454088	B	20010911	TW 1997-86104286	19970403
PRAI	US 1996-10184P	P	19960118		

AB Disclosed is a method for identifying and quantifying polymers in aqueous systems, especially water treatment systems, by immunoassays, wherein at least a portion of the polymers contains a detectable terminus selected from a chain transfer agent, an initiator (or fragment thereof), or a group attached to the chain transfer agent, such method comprising the steps of: (1) obtaining a sample of the aqueous system to be tested and incubating the sample with an appropriate monoclonal or polyclonal antibody and (2) detecting and measuring the degree of binding of the monoclonal or polyclonal antibody to identify the polymers and to determine the polymeric concentration in the aqueous system. Also disclosed are new hybridoma cell lines that express monoclonal antibodies that specifically recognize such a detectable terminus.

IC ICM G01N033-53

CC 61-5 (Water)

Section cross-reference(s): 9, 15, 35, 80

ST polymer water sol detn immunoassay; water treatment polymer detn immunoassay; hybridoma monoclonal antibody polymer immunoassay

IT Peroxides, analysis

RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study);

USES (Uses)

by (acyl, polymers containing; polymers detection and determination in aqueous systems immunoassay)

IT Peroxides, analysis
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study);
USES (Uses)
(alkyl, polymers containing; polymers detection and determination in aqueous systems by immunoassay)

IT Thiols (organic), analysis
Thiols (organic), analysis
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study);
USES (Uses)
(amino, polymers containing; polymers detection and determination in aqueous systems by immunoassay)

IT Immunoassay
(enzyme-linked immunosorbent assay; polymers detection and determination in aqueous systems by immunoassay)

IT Antibodies
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(monoclonal; polymers detection and determination in aqueous systems by immunoassay)

IT Esters, analysis
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study);
USES (Uses)
(peroxy, polymers containing; polymers detection and determination in aqueous systems by immunoassay)

IT Hemocyanins
Ovalbumin
Proteins, general, uses
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(phenylphosphinic acid-modified polyacrylate conjugates; polymers detection and determination in aqueous systems by immunoassay)

IT Azo compounds
Hydroperoxides
Sulfinic acids
Thiols (organic), analysis
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study);
USES (Uses)
(polymers containing; polymers detection and determination in aqueous systems by immunoassay)

IT Chain transfer agents
Hybridoma
Immunoassay
Water purification
(polymers detection and determination in aqueous systems by immunoassay)

IT Polymers, analysis
RL: ANT (Analyte); ANST (Analytical study)
(polymers detection and determination in aqueous systems by immunoassay)

IT Polymerization catalysts
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(polymers detection and determination in aqueous systems by immunoassay)

IT Antibodies
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(polymers detection and determination in aqueous systems by immunoassay)

IT Albumins, uses

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(serum, phenylphosphinic acid-modified polyacrylate conjugates; polymers detection and determination in aqueous systems by immunoassay)

IT Amines, analysis
Amines, analysis
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(thiol, polymers containing; polymers detection and determination in aqueous systems by immunoassay)

IT Polymers, analysis
RL: ANT (Analyte); ANST (Analytical study)
(water-soluble; polymers detection and determination in aqueous systems by immunoassay)

IT 6303-21-5, Phosphinic acid 13598-36-2, Phosphonic acid
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(polymers containing; polymers detection and determination in aqueous systems by immunoassay)

IT 446-35-5D, 2,4-Difluoronitrobenzene, polymers containing 485-47-2D, Ninhydrin, polymers containing 502-02-3D, halides, polymers containing 502-02-3D, polymers containing 2508-19-2D, 2,4,6-Trinitrobenzenesulfonic acid, polymers containing 2508-19-2D, 2,4,6-Trinitrobenzenesulfonic acid, salts, polymers containing 4272-77-9D, 1-(Dimethylamino)-5-naphthalenesulfonic acid, halides, polymers containing 4272-77-9D, 1-(Dimethylamino)-5-naphthalenesulfonic acid, polymers containing 9003-04-7, Acusol 445N 53326-91-3D, 3-Benzoylquinoline-2-carboxaldehyde, polymers containing 126769-01-5D, polymers containing
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(polymers detection and determination in aqueous systems by immunoassay)

IT 52-90-4D, Cysteine, reaction products with polyacrylic acid and trinitrobenzenesulfonic acid 1779-48-2D, Phenylphosphinic acid, reaction products with polyacrylic acid and cysteine and trinitrobenzenesulfonic acid
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(polymers detection and determination in aqueous systems by immunoassay)

IT 9001-78-9DP, Alkaline phosphatase, dinitrobenzenesulfonic acid conjugates 9003-01-4DP, Polyacrylic acid, functional group-terminated; protein conjugates 30729-49-8DP, alkaline phosphatase conjugates
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(polymers detection and determination in aqueous systems by immunoassay)

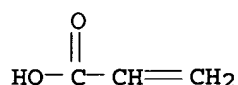
IT 9003-01-4DP, Polyacrylic acid, functional group-terminated; protein conjugates
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(polymers detection and determination in aqueous systems by immunoassay)

RN 9003-01-4 HCAPLUS
CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



L58 ANSWER 35 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1997:234200 HCAPLUS

DN 126:225709

TI Process for producing functionalized vinyl alcohol polymers

IN Sato, Toshiaki; Fujiwara, Naoki; Jikihara, Atsushi

PA Kuraray Co., Ltd., Japan

SO Eur. Pat. Appl., 23 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 757060	A2	19970205	EP 1996-112361	19960731
	EP 757060	A3	19980128		
	EP 757060	B1	19991020		
	R: DE, FR, GB, IT				
	JP 09100319	A2	19970415	JP 1996-179188	19960709
	JP 09100320	A2	19970415	JP 1996-179189	19960709
	US 5710211	A	19980120	US 1996-684484	19960719
PRAI	JP 1995-196713	A	19950801		
	JP 1995-196714	A	19950801		

AB Vinyl alc. polymers bearing functional groups which could not readily be prepared by conventional methods are prepared by reaction of vinyl ester polymers bearing epoxy groups with **thiols** or **thiol** esters followed by hydrolysis. AIBN-initiated polymerization of 405 parts vinyl acetate with 11 parts allyl glycidyl ether in MeOH at 60° gave a copolymer (I) containing 2.1 mol% glycidyl ether and having mol. weight 80,000. Heating 100 parts 44.5% MeOH solution of I with 2.2 parts HSCH₂CH₂OH and 0.03 parts NaOH at 50° for 1 h, adding 40 parts 10% methanolic NaOH, and heating at 40° for 5 h gave a polymer with vinyl alc. group content 97.0 mol% and HOCH₂CH₂S- group content 2.1 mol%, a 4% DMSO solution of which had viscosity 60.5 cP at 20°.

IC ICM C08F008-12

ICS C08F008-34

CC 35-8 (Chemistry of Synthetic High Polymers)

ST vinyl alc polymer functional; mercaptoethanol adduct epoxy polymer;

epoxide polymer functionalization; glycidyl allyl ether copolymer

functionalization; vinyl acetate copolymer functionalization

IT **Thiols** (organic), preparation

RL: IMF (Industrial manufacture); PREP (Preparation)

(reaction products with vinyl acetate-epoxide copolymers, hydrolyzed;

process for producing functionalized vinyl alc. polymers)

IT Epoxides

RL: IMF (Industrial manufacture); PREP (Preparation)

(reaction products with vinyl acetate-thioester copolymers, hydrolyzed;

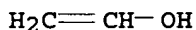
process for producing functionalized vinyl alc. polymers)

IT 52-90-4DP, Cysteine, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 60-23-1DP, 2-Amino-1-ethanethiol, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 60-24-2DP, 2-Mercaptoethanol, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 70-49-5DP, 2-Mercaptosuccinic acid, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 96-09-3DP,

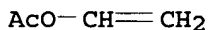
Styrene oxide, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 96-27-5DP, 3-Mercapto-1,2-propanediol, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 98-02-2DP, Furfuryl mercaptan, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 106-92-3DP, Allyl glycidyl ether, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 108-98-5DP, Thiophenol, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 112-55-0DP, 1-Dodecanethiol, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 137-07-5DP, 2-Aminobenzenethiol, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 286-20-4DP, Cyclohexene oxide, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 507-09-5DP, Thioacetic acid, reaction groups with poly(vinyl acetate) and epoxides, hydrolyzed 637-89-8DP, 4-Mercaptophenol, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 831-23-2DP, 2-Naphthalenethiol acetate, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 870-23-5DP, Allyl mercaptan, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 930-37-0DP, Glycidyl methyl ether, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 1074-36-8DP, 4-Mercaptobenzoic acid, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 2461-15-6DP, 2-Ethylhexyl glycidyl ether, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 3375-50-6DP, 2-Mercaptoethanesulfonic acid, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 4420-74-0DP, 3-(Trimethoxysilyl)-1-propanethiol, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 9002-89-5DP, Poly(vinyl alcohol), functional derivs. 9003-20-7DP, Poly(vinyl acetate), thioacetate group-terminated, hydrolyzed 9011-14-7DP, thioacetate group-terminated, reaction products with epoxides, hydrolyzed 25587-27-3DP, reaction products with epoxides, hydrolyzed 26141-88-8P, Glycidyl methacrylate-methyl methacrylate copolymer 26403-72-5DP, Polyethylene glycol diglycidyl ether, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 26951-52-0DP, Polytetramethylene glycol diglycidyl ether, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 29190-76-9DP, Allyl glycidyl ether-ethylene-vinyl acetate copolymer, reaction products with **thiols**, hydrolyzed 31048-51-8DP, Allyl glycidyl ether-vinyl acetate copolymer, reaction products with **thiols**, hydrolyzed 40349-67-5DP, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 86630-59-3DP, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 118549-88-5DP, reaction products with vinyl acetate-thioester copolymers, hydrolyzed 162844-36-2DP, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 188117-56-8DP, reaction products with **thiols**, hydrolyzed 188117-58-0DP, reaction products with **thiols**, hydrolyzed 188117-59-1DP, reaction products with **thiols**, hydrolyzed 188117-61-5DP, reaction products with **thiols**, hydrolyzed 188117-65-9DP, reaction products with **thiols**, hydrolyzed 188117-69-3DP, reaction products with **thiols**, hydrolyzed 188117-71-7DP, reaction products with epoxides, hydrolyzed 188117-73-9DP, reaction products with epoxides, hydrolyzed 188117-76-2DP, reaction products with epoxides, hydrolyzed 188117-81-9DP, reaction products with epoxides, hydrolyzed 188117-84-2DP, reaction products with epoxides, hydrolyzed 188117-86-4DP, reaction products with epoxides, hydrolyzed 188117-89-7DP, reaction products with epoxides, hydrolyzed 188117-90-0DP, reaction products with vinyl acetate-epoxide copolymers, hydrolyzed 188117-91-1DP, reaction products with vinyl acetate-thioester copolymers, hydrolyzed

RL: IMF (Industrial manufacture); PREP (Preparation)
(process for producing functionalized vinyl alc. polymers)

IT 9002-89-5DP, Poly(vinyl alcohol), functional derivs.
 9003-20-7DP, Poly(vinyl acetate), thioacetate group-terminated,
 hydrolyzed
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (process for producing functionalized vinyl alc. polymers)
 RN 9002-89-5 HCAPLUS
 CN Ethenol, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 557-75-5
 CMF C2 H4 O



RN 9003-20-7 HCAPLUS
 CN Acetic acid ethenyl ester, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 108-05-4
 CMF C4 H6 O2



L58 ANSWER 36 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1997:80539 HCAPLUS
 DN 126:89941
 TI Water-soluble polymers and compositions for separation of metals from
 aqueous streams
 IN Smith, Barbara F.; Robison, Thomas W.; Gohdes, Joel W.
 PA Regents of the University of California, USA; Smith, Barbara F.; Robison,
 Thomas W.; Gohdes, Joel W.
 SO PCT Int. Appl., 52 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9638493	A1	19961205	WO 1996-US8188	19960530
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML				
	US 5891956	A	19990406	US 1995-454451	19950530
	CA 2221618	AA	19961205	CA 1996-2221618	19960530
	AU 9659599	A1	19961218	AU 1996-59599	19960530
	EP 828779	A1	19980318	EP 1996-916867	19960530
	EP 828779	B1	20000913		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	CN 1186506	A	19980701	CN 1996-194346	19960530

CN 1108332	B	20030514		
JP 11506488	T2	19990608	JP 1996-536710	19960530
BR 9608743	A	19991207	BR 1996-8743	19960530
AT 196305	E	20000915	AT 1996-916867	19960530
ES 2152529	T3	20010201	ES 1996-916867	19960530
US 6441089	B1	20020827	US 1999-287303	19990406
AU 762882	B2	20030710	AU 2000-48978	20000802
PRAI US 1995-454451	A	19950530		
AU 1996-59599	A3	19960530		
WO 1996-US8188	W	19960530		
AB	For selective separation of metal ions from aqueous streams or metals from solid matrixes, ≥ 1 water-soluble polymers including functional groups selected from amino groups, carboxylic acid groups, phosphonic acid groups, phosphonic ester groups, acylpyrazolone groups, hydroxamic acid groups, aza crown ether groups, oxy crown ethers groups, guanidinium groups, amide groups, ester groups, aminodicarboxylic groups, permethylated polyvinylpyridine groups, permethylated amine groups, mercaptosuccinic acid groups, alkyl thiol groups, and N-alkylthiourea groups are used. Polyvinylpyrrolidone, NaOH, and hydroxylamine hydrochloride were mixed and heated at 90° 2 days to give a hydroxamic acid functional polymer which as a 0.1% solution at pH 2, 6, and 8 showed almost no retention of Am at pH 2 and 6, but 99% retention at pH 8.			
IC	ICM C08G073-06 ICS C08F226-02; C08F226-04; C08F020-04; C08F020-56; C08F028-02; C08F024-00			
CC	35-8 (Chemistry of Synthetic High Polymers) Section cross-reference(s): 60			
ST	metal selective sepn functional polymer; water sol polymer functional metal sepn; hydroxamic acid polymer metal sepn; americium aq sepn functional polymer			
IT	Sequestering agents (water-soluble polymers bearing functional groups that bind metal ion(s) for separation from aqueous streams)			
IT	7440-35-9, Americium, processes RL: REM (Removal or disposal); PROC (Process) (separation of; water-soluble polymers bearing functional groups that bind metal ion(s) for separation from aqueous streams)			
IT	79-06-1DP, Acrylamide, reaction product with polyethyleneimine 79-08-3DP, Bromoacetic acid, reaction product with polyethyleneimine 140-88-5DP, Ethyl acrylate, reaction product with polyethyleneimine 420-12-2DP, Ethylenesulfide, reaction product with polyethyleneimine 556-61-6DP, Methylisothiocyanate, reaction product with polyethyleneimine 1314-80-3DP, Phosphorus sulfide (P2S5), reaction product with polyvinylpyrrolidone 4743-99-1DP, reaction product with polyethyleneimine 5470-11-1DP, Hydroxylamine hydrochloride, reaction product with polyvinylpyrrolidone 6953-60-2DP, S-Acetylmercaptosuccinic anhydride, reaction product with polyethyleneimine 9002-98-6DP, reaction product, bearing functional groups 9002-98-6P 9003-39-8DP, Poly(vinylpyrrolidone), reaction product with hydroxylamine hydrochloride 9003-47-8DP, Poly(vinylpyridine), permethylated, salt 13598-36-2DP, Phosphorous acid, reaction product with polyethyleneimine, preparation 26336-38-9DP, Polyvinyl amine, permethylated, salt 30551-89-4DP, Polyallylamine, permethylated, salt 31197-05-4DP, reaction product with polyethyleneimine 33100-27-5DP, 15-Crown-5 ether, reaction product with polyvinyl alc. 52328-05-9DP, reaction product with polyethyleneimine 66168-85-2DP, reaction product with polyethyleneimine 98704-88-2DP, reaction product with polyethyleneimine 185746-06-9DP, reaction product with polyethyleneimine 185746-07-0DP, hydrolyzed 185746-07-0P 185746-08-1P 185746-09-2P			

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(water-soluble polymers bearing functional groups that bind metal ion(s) for separation from aqueous streams)

IT 9002-98-6DP, reaction product, bearing functional groups

30551-89-4DP, Polyallylamine, permethylated, salt

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(water-soluble polymers bearing functional groups that bind metal ion(s) for separation from aqueous streams)

RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



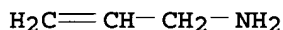
RN 30551-89-4 HCAPLUS

CN 2-Propen-1-amine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-11-9

CMF C3 H7 N



L58 ANSWER 37 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:551342 HCAPLUS

DN 125:171108

TI Functionalized photoinitiators, derivatives and macromers therefrom and their use

IN Chabreck, Peter; Dietliker, Kurt; Lohmann, Dieter

PA Ciba-Geigy A.-G., Switz.

SO PCT Int. Appl., 76 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9620919	A1	19960711	WO 1995-EP5012	19951218
	W: AL, AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IS, JP, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TT, UA, US, UZ, VN				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	TW 434456	B	20010516	TW 1995-84101034	19950208
	CA 2208664	AA	19960711	CA 1995-2208664	19951218

AU 9643873	A1	19960724	AU 1996-43873	19951218
AU 700575	B2	19990107		
EP 800511	A1	19971015	EP 1995-942692	19951218
EP 800511	B1	20000126		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE				
BR 9510177	A	19971223	BR 1995-10177	19951218
CN 1174547	A	19980225	CN 1995-197513	19951218
JP 10512856	T2	19981208	JP 1995-520701	19951218
ES 2142506	T3	20000416	ES 1995-942692	19951218
PT 800511	T	20000731	PT 1995-942692	19951218
ZA 9511002	A	19960701	ZA 1995-11002	19951228
FI 9702698	A	19970825	FI 1997-2698	19970623
NO 9703021	A	19970901	NO 1997-3021	19970627
GR 3032930	T3	20000731	GR 2000-400626	20000310
PRAI CH 1994-3968	A	19941230		
WO 1995-EP5012	W	19951218		
OS	MARPAT 125:171108			
AB	Photoinitiators are obtained based on α -aminoacetophenones functionalized with organic diisocyanates and are used to modify surfaces. The photoinitiators are especially useful for modifying the surfaces of contact lenses. Thus, 2-ethyl-2-(dimethylamino)-1-[4-(2-hydroxyethoxy)phenyl]-4-penten-1-one was treated with IPDI to give a monoisocyanate product (I). I was used to treat a polybutadiene surface under UV irradiation and the surface was then treated with Jeffamine M 2070. The treated surface had advancing and receding contact angles 66 and 47°, resp., compared to 102 and 78° for untreated polymer, resp.			
IC	ICM C07C271-20			
CC	ICS C07D295-104; C08F002-50; G03F007-031; C08F008-30; G02B001-04			
	42-10 (Coatings, Inks, and Related Products)			
	Section cross-reference(s): 63			
ST	photoinitiator aminoacetophenone isocyanate deriv; macromer photoinitiator coating contact lens			
IT	Collagens, preparation			
	RL: IMF (Industrial manufacture); PREP (Preparation)			
	(Serva 17440, reaction products, with isocyanate-functionalized aminoacetophenones; functionalized photoinitiators, macromers and polymeric products for coatings)			
IT	Siloxanes and Silicones, preparation			
	RL: IMF (Industrial manufacture); PREP (Preparation)			
	(aminopropyl Me, di-Me, KF 8003, reaction products, with isocyanate-functionalized aminoacetophenones; functionalized photoinitiators, macromers and polymeric products)			
IT	Lenses			
	(contact, functionalized photoinitiators, macromers and polymeric products for coatings)			
IT	Siloxanes and Silicones, preparation			
	RL: IMF (Industrial manufacture); PREP (Preparation)			
	(di-Me, aminopropyl group-terminated, reaction products, with isocyanate-functionalized aminoacetophenones; functionalized photoinitiators, macromers and polymeric products)			
IT	Siloxanes and Silicones, preparation			
	RL: IMF (Industrial manufacture); PREP (Preparation)			
	(hydrogen, reaction products, with isocyanate-functionalized aminoacetophenones; functionalized photoinitiators, macromers and polymeric products)			
IT	Monomers			
	RL: IMF (Industrial manufacture); PREP (Preparation)			
	(macro-, functionalized photoinitiators, macromers and polymeric products)			
IT	Crosslinking catalysts			

Polymerization catalysts
(photochem., functionalized photoinitiators, macromers and polymeric products)

IT Coating materials
Inks
(photocurable, functionalized photoinitiators, macromers and polymeric products)

IT Siloxanes and Silicones, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(vinyl group-containing, Siloprene U Additive V 20, reaction products, with isocyanate-functionalized aminoacetophenones; functionalized photoinitiators, macromers and polymeric products)

IT 9003-17-2DP, Polybutadiene, reaction products with isocyanate-functionalized aminoacetophenones
RL: IMF (Industrial manufacture); PREP (Preparation)
(1,2-syndiotactic; functionalized photoinitiators, macromers and polymeric products)

IT 156327-07-0DP, reaction products, with isocyanate-functionalized aminoacetophenones
RL: IMF (Industrial manufacture); PREP (Preparation)
(KF 6001 and KF 6002; functionalized photoinitiators, macromers and polymeric products)

IT 9002-89-5DP, Poly(vinyl alcohol), reaction products with isocyanate-functionalized aminoacetophenones
RL: IMF (Industrial manufacture); PREP (Preparation)
(Serva 03/20; functionalized photoinitiators, macromers and polymeric products)

IT 9004-54-0DP, Dextran, reaction products with isocyanate-functionalized aminoacetophenones
RL: IMF (Industrial manufacture); PREP (Preparation)
(Serva G; functionalized photoinitiators, macromers and polymeric products)

IT 97917-34-5DP, reaction products, with isocyanate-functionalized aminoacetophenones
RL: IMF (Industrial manufacture); PREP (Preparation)
(X 22-161B; functionalized photoinitiators, macromers and polymeric products)

IT 5495-84-1, Quantacure ITX
RL: CAT (Catalyst use); USES (Uses)
(catalyst; functionalized photoinitiators, macromers and polymeric products)

IT 180681-72-5 180839-10-5 180845-39-0
RL: CAT (Catalyst use); USES (Uses)
(functionalized photoinitiators, macromers and polymeric products)

IT 79-06-1DP, 2-Propenamide, polymers with isocyanate-functionalized aminoacetophenones and siloxanes, graft 88-12-0DP, polymers with isocyanate-functionalized aminoacetophenones and siloxanes, graft 97-90-5DP, polymers with isocyanate-functionalized aminoacetophenones and siloxanes 868-77-9DP, polymers with isocyanate-functionalized aminoacetophenones and siloxanes, graft 2680-03-7DP, polymers with isocyanate-functionalized aminoacetophenones and siloxanes, graft 9056-77-3DP, Polyethylene glycol methacrylate, polymers with isocyanate-functionalized aminoacetophenones and siloxanes, graft 17096-07-0DP, polymers with isocyanate-functionalized aminoacetophenones and siloxanes, graft 180845-20-9P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(functionalized photoinitiators, macromers and polymeric products)

IT 694-83-7DP, 1,2-Diaminocyclohexane, reaction products with isocyanate-functionalized aminoacetophenones and siloxanes

9002-98-6DP, Polyethylenimine, reaction products with isocyanate-functionalized aminoacetophenones 31900-57-9DP, Dimethylsilanediol homopolymer, reaction products with isocyanate-functionalized aminoacetophenones 65605-36-9DP, Jeffamine ED 2001, reaction products with isocyanate-functionalized aminoacetophenones 83713-01-3DP, Jeffamine M 2070, reaction products with isocyanate-functionalized aminoacetophenones 180681-41-8DP, reaction products with siloxanes 180681-44-1P 180681-45-2DP, reaction products with siloxanes 180681-46-3DP, reaction products with siloxanes 180839-07-0DP, reaction products with siloxanes 180844-87-5P 180844-91-1P 180844-93-3P 180844-97-7P 180845-14-1P 180845-16-3P 180845-34-5P 180845-36-7P 180845-37-8P

RL: IMF (Industrial manufacture); PREP (Preparation)
(functionalized photoinitiators, macromers and polymeric products)

IT 180681-41-8P 180681-42-9P 180681-45-2P 180681-46-3P 180838-99-7P
180839-07-0P 180839-09-2P 180844-79-5P 180844-81-9P 180844-83-1P
180844-85-3P 180844-89-7P 180844-95-5P 180844-99-9P 180845-12-9P
180845-18-5P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(functionalized photoinitiators, macromers and polymeric products)

IT 868-77-9 7659-36-1, 2-Aminoethyl methacrylate 88324-58-7 119312-38-8
180681-43-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(functionalized photoinitiators, macromers and polymeric products)

IT 180845-22-1P 180845-24-3P 180845-26-5P 180845-28-7P 180845-30-1P
180845-32-3P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(photocurable ink; functionalized photoinitiators, macromers and polymeric products)

IT 101-68-8 584-84-9 4098-71-9 16938-22-0, 2,2,4-Trimethylhexamethylene diisocyanate 109320-32-3, Desmodur 3390

RL: RCT (Reactant); RACT (Reactant or reagent)

(starting material; functionalized photoinitiators, macromers and polymeric products)

IT 9002-89-5DP, Poly(vinyl alcohol), reaction products with isocyanate-functionalized aminoacetophenones

RL: IMF (Industrial manufacture); PREP (Preparation)

(Serva 03/20; functionalized photoinitiators, macromers and polymeric products)

RN 9002-89-5 HCAPLUS

CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O

H₂C=CH-OH

IT 9002-98-6DP, Polyethylenimine, reaction products with isocyanate-functionalized aminoacetophenones

RL: IMF (Industrial manufacture); PREP (Preparation)

(functionalized photoinitiators, macromers and polymeric products)

RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



L58 ANSWER 38 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:59888 HCAPLUS

DN 124:178971

TI Abrasion resistant inorganic/organic coating materials prepared by the sol-gel method

AU Wen, J.; Vasudevan, V. J.; Wilkes, G. L.

CS Department of Chemical Engineering, Virginia Polytechnic Institute and State University, Blacksburg, VA, 24061, USA

SO Journal of Sol-Gel Science and Technology (1995), 5(2), 115-26

CODEN: JSGTEC; ISSN: 0928-0707

PB Kluwer

DT Journal

LA English

AB Novel abrasion-resistant coating materials prepared by the sol-gel method were developed and applied on the polymeric substrates bisphenol-A polycarbonate and diallyl diglycol carbonate resin (CR-39). These coatings are inorg./organic hybrid network materials synthesized from 3-isocyanatopropyltriethoxysilane-functionalized orgs. and metal alkoxide. The organic components are 3,3'-iminobisproylamine, resorcinol, diethylenetriamine, poly(ethyleneimine), glycerol and a series of diols. The metal alkoxides are tetraethoxysilane (TEOS) and tetramethoxysilane (TMOS). These materials are spin coated onto bisphenol-A polycarbonate and CR-39 sheets and thermally cured to obtain a transparent coating of a few microns in thickness. Following the curing, the abrasion resistance is measured and compared with an uncoated control. The abrasion resistance of inorg./organic hybrid coatings in the neat form or containing metal alkoxide can be very effective to improve the abrasion resistance of polymeric substrates. The adhesion tests show that the adhesion between coating and substrate can be greatly improved by treating the polymeric substrate surface with a primer solution of isopropanol containing 3-aminopropyltriethoxysilane (3-APS). The interaction between 3-APS and the polycarbonate surface was investigated by a mol. dynamics simulation. The results strongly suggest that the hydrogen bonding between the amino group of the 3-APS and ester group in the polycarbonate backbone are sufficiently strong to influence the orientation of the primer mols. The abrasion resistance of these new coating systems is discussed in light of the structure of the organic components. All of these results show that these coating materials have excellent abrasion resistance and have potential applications as coating materials for lenses and other polymeric products.

CC 42-10 (Coatings, Inks, and Related Products)

ST abrasion resistant inorg org coating; isocyanatopropyltriethoxysilane tetramethoxysilane tetraethoxysilane coating polycarbonate; iminobisproylamine diethylenetriamine polyethyleneimine glycerol diol coating

IT Glycols, uses

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane; abrasion-resistant inorg./organic coating materials prepared by the sol-gel method for polycarbonates or CR-39)

IT Coating materials
(abrasion-resistant inorg./organic coating materials prepared by the sol-gel method for polycarbonates or CR-39)

IT Polycarbonates, uses
RL: NUU (Other use, unclassified); USES (Uses)
(abrasion-resistant inorg./organic coating materials prepared by the sol-gel method for polycarbonates or CR-39)

IT 24936-68-3, Bisphenol A-carbonic acid copolymer, sru, uses 25037-45-0, Bisphenol A-carbonic acid copolymer 25656-90-0, CR-39
RL: NUU (Other use, unclassified); USES (Uses)
(abrasion-resistant inorg./organic coating materials prepared by the sol-gel method for polycarbonates or CR-39)

IT 56-18-8D, 3,3'-Iminobispropylamine, 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane 56-81-5D, Glycerol, 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane 78-10-4D, Tetraethoxysilane, polymers with 3-isocyanatopropyltriethoxysilane-functionalized amines or alcs. 108-46-3D, Resorcinol, 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane 111-40-0D, Diethylenetriamine, 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane 681-84-5D, Tetramethoxysilane, polymers with 3-isocyanatopropyltriethoxysilane-functionalized amines or alcs. 9002-98-6D, 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane 26913-06-4D, Poly[imino(1,2-ethanediyl)], 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(abrasion-resistant inorg./organic coating materials prepared by the sol-gel method for polycarbonates or CR-39)

IT 9002-98-6D, 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane 26913-06-4D, Poly[imino(1,2-ethanediyl)], 3-isocyanatopropyltriethoxysilane-functionalized, polymers with tetraethoxysilane and tetramethoxysilane
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(abrasion-resistant inorg./organic coating materials prepared by the sol-gel method for polycarbonates or CR-39)

RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

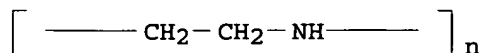
CM 1

CRN 151-56-4

CMF C2 H5 N



RN 26913-06-4 HCAPLUS
CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



L58 ANSWER 39 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:950027 HCAPLUS
DN 124:12639
TI Mercury sorption by "non-functional" crosslinked polyacrylamides
AU Bicak, Niyazi; Sherrington, David C.
CS Department of Pure and Applied Chemistry, University of Strathclyde, 295
Cathedral Street, Glasgow, G1 1XL, UK
SO Reactive & Functional Polymers (1995), 27(3), 155-61
CODEN: RFPOF6; ISSN: 1381-5148
PB Elsevier
DT Journal
LA English
AB Three powdered crosslinked non-functional polyacrylamide
gels and 4 spherical crosslinked polyacrylamide resins were prepared by
aqueous solution and inverse suspension polymerization resp. Methylene
bisacrylamide, ethylene bisacrylamide and N,N-bis-acryloyl piperazine were
used as crosslinkers. The 7 polymers readily and rapidly sorb Hg(II)
quant. from a 100 ppm solution (pH 6.4), and the maximum Hg capacity is
apprx. 1.5 g per g of dry polymer. Quant. stripping of Hg from loaded
resins was demonstrated using hot acetic acid, which indicates that resins
can be designed for recycling or continuous use in metal recovery
operations. Qual. expts. with linear polyacrylamide show that other metal
ions Ni(II), Cu(II), Co(II), Cd(II), Zn(II), Fe(II) and Fe(III) are
unaffected; thus, the resins are cost effective selective sorbents for Hg
removal and recovery.
CC 54-2 (Extractive Metallurgy)
Section cross-reference(s): 38
ST mercury sorption crosslinked polyacrylamide resin; amide group
polyacrylamide mercury interaction recovery
IT Sorption
(mercury sorption and recovery with crosslinked polyacrylamide resins
and gels)
IT Polyamides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(acrylic, mercury sorption and recovery with crosslinked polyacrylamide
resins and gels)
IT 7439-97-6P, Mercury, preparation
RL: PUR (Purification or recovery); PREP (Preparation)
(mercury sorption and recovery with crosslinked polyacrylamide resins
and gels)
IT 110-26-9D, Methylene bisacrylamide, crosslinking products with acrylamide
2956-58-3D, N,N'-Ethylene bisacrylamide, crosslinking products with
acrylamide 9003-05-8D, Polyacrylamide, crosslinking products with amides
17308-56-4D, crosslinking products with acrylamide
RL: TEM (Technical or engineered material use); USES (Uses)
(mercury sorption and recovery with crosslinked polyacrylamide resins
and gels)
IT 7439-97-6P, Mercury, preparation
RL: PUR (Purification or recovery); PREP (Preparation)
(mercury sorption and recovery with crosslinked polyacrylamide resins

and gels)

RN 7439-97-6 HCAPLUS

CN Mercury (8CI, 9CI) (CA INDEX NAME)

Hg

L58 ANSWER 40 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1995:921860 HCAPLUS

DN 123:314800

TI Functionalization of polyethylene glycol for formation of active sulfone-terminated PEG derivatives for binding to proteins and biologically compatible materials.

IN Harris, J. Milton

PA Shearwater Polymers, Inc., USA

SO PCT Int. Appl., 48 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9513312	A1	19950518	WO 1994-US13013	19941114
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ				
	RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 5446090	A	19950829	US 1993-151481	19931112
	CA 2176203	AA	19950518	CA 1994-2176203	19941114
	CA 2176203	C	20030610		
	AU 9510548	A1	19950529	AU 1995-10548	19941114
	AU 687937	B2	19980305		
	EP 728155	A1	19960828	EP 1995-901226	19941114
	EP 728155	B1	20020403		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	CN 1137280	A	19961204	CN 1994-194460	19941114
	CN 1085689	B	20020529		
	BR 9408048	A	19961224	BR 1994-8048	19941114
	JP 09508926	T2	19970909	JP 1994-514031	19941114
	JP 3114998	B2	20001204	JP 1995-514031	19941114
	PL 180149	B1	20001229	PL 1994-314298	19941114
	EE 3448	B1	20010615	EE 1996-128	19941114
	RU 2176253	C2	20011127	RU 1996-113123	19941114
	EP 1176160	A2	20020130	EP 2001-122161	19941114
	EP 1176160	A3	20040303		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, LT				
	AT 215577	E	20020415	AT 1995-901226	19941114
	ES 2173943	T3	20021101	ES 1995-901226	19941114
	RO 118434	B1	20030530	RO 1996-959	19941114
	SK 284527	B6	20050505	SK 1996-608	19941114
	US 5739208	A	19980414	US 1995-473734	19950607
	BG 63399	B1	20011231	BG 1996-100568	19960506
	FI 9602004	A	19960510	FI 1996-2004	19960510
	NO 9601918	A	19960712	NO 1996-1918	19960510

NO	315377	B1	20030825		
US	5900461	A	19990504	US 1998-27679	19980223
US	2002150548	A1	20021017	US 1999-294188	19990419
US	6610281	B2	20030826		
US	2004037801	A1	20040226	US 2003-647621	20030825
US	6894025	B2	20050517		
PRAI	US 1993-151481	A	19931112		
EP	1995-901226	A3	19941114		
WO	1994-US13013	W	19941114		
US	1995-473734	A3	19950607		
US	1998-27679	A3	19980223		
US	1999-294188	A1	19990419		

AB A poly(ethylene glycol) (PEG) derivative is disclosed that is activated with a sulfone moiety for selective attachment to thiol moieties on mols. and surfaces (e.g., for manufacture of biol. active and biocompatible mols.). The activated PEG, of general formula R(OCH₂CH₂)_nY [Y = SO₂CH:CH₂ and SO₂CH₂CH₂X (R is the rest of the oxyethylene chain, X is halogen)], is water soluble, hydrolytically stable for extended periods, and forms hydrolytically stable linkages with thiol moieties (e.g., they are not reversible in reducing environments). Methods for synthesizing the active PEG and for preparing conjugates of the active PEG and other substances, including biol. active substances, were also described. A typical preparation involves a multistep reaction of PEG with (1) esterification with MeSO₂Cl, (2) substitution with HSCH₂CH₂OH, (3) oxidation to form the sulfone, (4) chlorination with SOCl₂, and (5) dehydrochlorination to form vinyl sulfone-terminated PEG. The reaction scheme is also suitable for preparation of sulfone-terminated polypropylene glycol, ethoxylated glycerol, ethoxylated sorbitol, ethoxylated glucose, and polyvinyl alc.

IC ICM C08G065-32
ICS A61K047-48

CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 6, 34, 63

ST polyethylene glycol functionalization active sulfone; polyoxyalkylene functionalization active sulfone; protein binding polyoxyalkylene functionalization; vinyl sulfone polyethylene glycol derivatization; pharmaceutical polyoxyalkylene functionalization protein binding

IT Polyoxyalkylenes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(functionalization of polyethylene glycol for formation of active sulfone-terminated PEG derivs. for binding to proteins)

IT Esterification
(of polyethylene glycol for preparation of active sulfone-terminated polyoxyalkylenes)

IT Oxidation
(of polyethylene glycol hydroxy(thioethyl) derivs. for preparation of active sulfone-terminated polyoxyalkylenes)

IT Substitution reaction, nucleophilic
(of polyethylene glycol mesylate for preparation of active sulfone-terminated polyoxyalkylenes)

IT Chlorination
Dehydrochlorination
(of polyethylene glycol sulfone derivs. for preparation of active sulfone-terminated polyoxyalkylenes)

IT Albumins, reactions
Proteins, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(polyoxyalkylene-containing; functionalization of polyethylene glycol for formation of active sulfone-terminated PEG derivs. for binding to proteins)

IT 9002-89-5DP, Polyvinyl alcohol, active sulfone-terminated
25322-68-3DP, active sulfone-terminated 25322-69-4DP, active
sulfone-terminated 31694-55-0DP, active sulfone-terminated
53694-15-8DP, active sulfone-terminated 65323-88-8DP, active
sulfone-terminated 170358-95-9P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
(Preparation)
(functionalization of polyethylene glycol for formation of
active sulfone-terminated PEG derivs. for binding to proteins)

IT 170358-93-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and chlorination of)

IT 170358-94-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and dehydrochlorination of)

IT 165194-30-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and nucleophilic substitution reaction of)

IT 170358-92-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and oxidation of)

IT 9002-89-5DP, Polyvinyl alcohol, active sulfone-terminated
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
(Preparation)
(functionalization of polyethylene glycol for formation of
active sulfone-terminated PEG derivs. for binding to proteins)

RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O

H₂C=CH-OH

L58 ANSWER 41 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:410302 HCAPLUS
DN 121:10302
TI Reaction products of amino or amide group-containing polymer with
compounds containing functional and linking groups
IN Geckeler, Kurt E.; Zhou, Rongnong
PA Germany
SO Ger. Offen., 10 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4227019	A1	19940217	DE 1992-4227019	19920814
PRAI DE 1992-4227019		19920814		
AB	A polymer such as poly(ethylenimine), poly(allylamine), chitosan, or			

polyacrylamide is reacted with a functional group-containing compound such as phosphonic acid, urea, 8-hydroxyquinoline, phenol, salicylic acid, PhSO₃H, Alizarine Red S, 4-(2-pyridylazo)resorcinol, benzo-15-crown-5, cetylpyridinium chloride, or Na dodecylbenzenesulfonate and a linking compound such as HCHO to give reaction products for use in anal., diagnostic, therapeutic, and other processes (e.g., anion or cation exchange).

- IC ICM C08F008-00
- ICS C08G085-00; C08B037-08; C08H001-00; G01N021-78; B01J039-18
- ICA C08F008-40; C08F008-34; C08F026-02; C08F020-56; C08G073-04; A61K049-00; B01J039-18
- CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 37, 38, 46
- ST polyamine reaction product functional; polyamide reaction product functional; formaldehyde polyamide polyamine deriv functional; polyethylenimine reaction product functional; polyallylamine reaction product functional; polyacrylamide reaction product functional; chitosan reaction product functional; phosphonic deriv polyamine formaldehyde; carboxy deriv polyamine formaldehyde; phenol deriv polyamine formaldehyde; sulfonic deriv polyamine formaldehyde; urea deriv polyamine formaldehyde; surfactant deriv polyamine formaldehyde; anion exchanger polyamine deriv; cation exchanger polyamine deriv
- IT Crosslinking agents
(polyamine-functional compound reaction products containing, preparation and uses of)
- IT Anion exchangers
Cation exchangers
Sequestering agents
Surfactants
(polyamine-functional compound-formaldehyde reaction products, preparation and uses of)
- IT Carboxylic acids, preparation
Phenols, preparation
Sulfonic acids, preparation
RL: PREP (Preparation)
(reaction products with formaldehyde and polyamines, preparation and uses of)
- IT Polyamines
RL: PREP (Preparation)
(compds., reaction products with formaldehyde and functional compds., preparation and uses of)
- IT Amines, preparation
RL: PREP (Preparation)
(polymers, reaction products with formaldehyde and functional compds., preparation and uses of)
- IT 50-00-0DP, Formaldehyde, reaction products with polyamines and functional compds. 57-13-6DP, Urea, reaction products with polyamines and formaldehyde 62-56-6DP, Thiourea, reaction products with polyamines and formaldehyde 69-72-7DP, Salicylic acid, reaction products with polyamines and formaldehyde 81-88-9DP, Rhodamine B, reaction products with polyamines and formaldehyde 84-88-8DP, 8-Hydroxyquinoline-5-sulfonic acid, reaction products with polyamines and formaldehyde 88-75-5DP, 2-Nitrophenol, reaction products with polyamines and formaldehyde 98-11-3DP, Benzenesulfonic acid, reaction products with polyamines and formaldehyde 108-46-3DP, Resorcinol, reaction products with polyamines, formaldehyde, and functional aromatic compds. 108-95-2DP, Phenol, reaction products with polyamines and formaldehyde 120-80-9DP, 1,2-Benzenediol, reaction products with polyamines and formaldehyde 123-03-5DP, Cetylpyridinium chloride, reaction products with polyamines and formaldehyde 130-22-3DP, Alizarine red S, reaction

products with polyamines and formaldehyde 140-95-4DP, Dimethylolurea, reaction products with polyamines and formaldehyde 148-24-3DP, 8-Hydroxyquinoline, reaction products with polyamines and formaldehyde 260-94-6DP, Acridine, reaction products with polyamines and formaldehyde 552-16-9DP, 2-Nitrobenzoic acid, reaction products with polyamines and formaldehyde 1141-59-9DP, 4-(2-Pyridylazo)resorcinol, reaction products with polyamines and formaldehyde 1149-16-2DP, Glyoxalbis(2-hydroxyanil), reaction products with polyamines and formaldehyde 1787-61-7DP, Eriochrome black T, reaction products with polyamines and formaldehyde 3569-82-2DP, Salicylfluorone, reaction products with polyamines and formaldehyde 9002-98-6DP, Polyaziridine, reaction products with formaldehyde and functional compds. 9003-05-8DP, Polyacrylamide, reaction products with formaldehyde and functional compds. 9012-76-4DP, Chitosan, reaction products with formaldehyde and functional compds. 13598-36-2DP, Phosphonic acid, reaction products with polyamines and formaldehyde 14098-44-3DP, Benzo-15-crown-5, reaction products with polyamines and formaldehyde 25155-30-0DP, Sodium dodecylbenzenesulfonate, reaction products with polyamines and formaldehyde 29511-50-0DP, N,N-Dimethyl-N'-benzoylthiourea, reaction products with polyamines and formaldehyde 30551-89-4DP, Poly(allylamine), reaction products with formaldehyde and functional compds.

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and uses of)

IT 9002-98-6DP, Polyaziridine, reaction products with formaldehyde and functional compds. 30551-89-4DP, Poly(allylamine), reaction products with formaldehyde and functional compds.

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and uses of)

RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



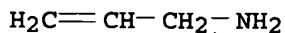
RN 30551-89-4 HCAPLUS

CN 2-Propen-1-amine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-11-9

CMF C3 H7 N



L58 ANSWER 42 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1994:9111 HCAPLUS

DN 120:9111

TI Branched polyethylenimine support for resins with retention properties for

heavy metal ions

AU Rivas, Bernabe L.; Maturana, Hernan A.; Peric, Ivan M.
CS Fac. Cienc. Quim., Univ. Concepcion, Concepcion, Chile
SO Angewandte Makromolekulare Chemie (1993), 211, 103-12
CODEN: ANMCBO; ISSN: 0003-3146

DT Journal
LA English

AB A crosslinked polyethylenimine, using epichlorohydrin as crosslinker, was prepared and subsequently modified in order to obtain the corresponding N-methylated, -carboxymethylated, or -phosphonomethylated derivs. The sorption characteristics of these functionalized resins were studied by a batch equilibration technique, for uptake of Cu(II), Fe(II), Fe(III), and uranyl ions from aqueous solution. Resins with tertiary amine or ammonium groups showed negligible sorption for Fe(II), Fe(III), and Cu(II) at pH 1, in contrast to high sorption for U(VI), which was readily eluted with Na2CO3.

CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 38, 55

ST polyethylenimine crosslinked sorption heavy metal

IT Sorption
(of heavy metals by functionalized epichlorohydrin-modified aziridine homopolymers)

IT Polyamines
RL: USES (Uses)
(sorption of heavy metals by functionalized epichlorohydrin-modified)

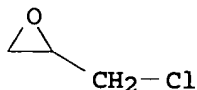
IT 77-78-1D, Dimethylsulfate, reaction products with epichlorohydrin-functionalized aziridine homopolymers 106-89-8D, reaction products with aziridine homopolymer 3926-62-3D, Sodium chloroacetate, reaction products with epichlorohydrin-functionalized aziridine homopolymers 9002-98-6D, Aziridine homopolymer, reaction products with epichlorohydrin and **functionalizing agents**
RL: USES (Uses)
(sorption of heavy metals by)

IT 7439-89-6, Iron, properties 7440-50-8, Copper, properties 7440-61-1, Uranium, properties 7732-18-5, Water, properties
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(sorption of, by functionalized epichlorohydrin-modified aziridine homopolymers)

IT 106-89-8D, reaction products with aziridine homopolymer 9002-98-6D, Aziridine homopolymer, reaction products with epichlorohydrin and **functionalizing agents**
RL: USES (Uses)
(sorption of heavy metals by)

RN 106-89-8 HCAPLUS

CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)



RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



L58 ANSWER 43 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:61848 HCAPLUS
DN 118:61848
TI Adsorption of metal ions on polyaminated highly porous chitosan chelating resin
AU Kawamura, Yoshihide; Mitsuhashi, Masaki; Tanibe, Hiroaki; Yoshida, Hiroyuki
CS Inst. Res. Dev., Fuji Spinning Co., Ltd., Shizuoka, 410-13, Japan
SO Industrial & Engineering Chemistry Research (1993), 32(2), 386-91
CODEN: IECRED; ISSN: 0888-5885
DT Journal
LA English
AB A highly porous chelating resin was fabricated from the natural polysaccharide chitosan. The adsorption capacity was increased by polyamination with poly(ethyleneimine) (mol. weight 10,000). The capacity was about 1-2 times larger than that of com. chelate resins. The selectivity for adsorption of metal ions on the resin, which was determined for a single solute at pH = 7, was Hg(II) > UO₂(II) > Cd(II) > Zn(II) > Cu(II) > Ni(II). Mg(II), Ca(II), Ga(III), As(III), and Sr(II) were not adsorbed on the resin at all. The selectivity depended on the pH of each metal solution. The equilibrium isotherms for adsorption of HgCl₂ were correlated by the Langmuir equation. The saturation capacities were close to the concentration of amino groups fixed on the resin. When HCl or NaCl coexisted in HgCl₂ solution and their concns. were <100 mol/m³, the saturation capacity of HgCl₂ was hardly affected by them. When 500 mol/m³ H₂SO₄ coexisted in HgCl₂ solution, extremely low pH inhibited the adsorption of Hg(II).
CC 44-7 (Industrial Carbohydrates)
ST chitosan chelating resin metal adsorption
IT Transition metals, properties
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(adsorption of, on poly(ethyleneimine)-modified chitosan chelating resins, selectivity in)
IT Crosslinking
(of chitosan, by ethylene glycol diglycidyl ether, in chelating resin preparation)
IT Adsorption
(of metals on poly(ethyleneimine)-modified chitosan chelating resins, selectivity in)
IT Cation exchangers
(chelating, poly(ethyleneimine)-modified chitosan, for metals, selectivity of)
IT 7429-90-5, Aluminum, properties 7439-91-0, Lanthanum, properties
7439-92-1, Lead, properties 7439-95-4, Magnesium, properties
7439-96-5, Manganese, properties 7439-97-6, Mercury, properties
7439-98-7, Molybdenum, properties 7440-02-0, Nickel, properties
7440-21-3, Silicon, properties 7440-24-6, Strontium, properties
7440-31-5, Tin, properties 7440-32-6, Titanium, properties 7440-38-2, Arsenic, properties
7440-39-3, Barium, properties 7440-42-8, Boron, properties
7440-43-9, Cadmium, properties 7440-45-1, Cerium, properties
7440-47-3, Chromium, properties 7440-48-4, Cobalt, properties
7440-50-8, Copper, properties 7440-55-3, Gallium, properties
7440-56-4, Germanium, properties 7440-61-1, Uranium, properties
7440-65-5, Yttrium, properties 7440-66-6, Zinc, properties
7440-70-2, Calcium, properties 7440-74-6, Indium, properties

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(adsorption of, on poly(ethyleneimine)-modified chitosan chelating resins)

IT 9002-98-6D, reaction products with crosslinked epoxy-functionalized chitosan 9012-76-4D, Chitosan, crosslinked, reaction products with polyethyleneimine
RL: USES (Uses)
(chelating resins, adsorption of metal ions on, selectivity in)

IT 2224-15-9, Ethylene glycol diglycidyl ether
RL: USES (Uses)
(chitosan crosslinked with, in preparation of chelating resins)

IT 1398-61-4, Chitin
RL: USES (Uses)
(chitosan preparation from)

IT 106-89-8DP, Epichlorohydrin, reaction products with crosslinked chitosan
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with polyethyleneimine)

IT 9002-98-6D, reaction products with crosslinked epoxy-functionalized chitosan
RL: USES (Uses)
(chelating resins, adsorption of metal ions on, selectivity in)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

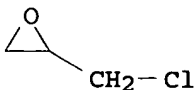
CM 1

CRN 151-56-4
CMF C2 H5 N



IT 106-89-8DP, Epichlorohydrin, reaction products with crosslinked chitosan
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with polyethyleneimine)

RN 106-89-8 HCAPLUS
CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)



L58 ANSWER 44 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1990:100764 HCAPLUS
DN 112:100764
TI Dispersing agents for solid particles in organic compounds
IN Canestri, Giuseppe
PA Italy
SO Eur. Pat. Appl., 116 pp.
CODEN: EPXXDW
DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 328206	A2	19890816	EP 1989-200261	19890206
	EP 328206	A3	19910703		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
PRAI	IT 1988-19392	A	19880212		
AB	The title dispersants, useful in thermoplastics and liquid diluents (e.g. printing inks and coatings) have mol. weight 2500-70,000 and are prepared from reactive compns. at the limit of plastics and compns. of C8-20 aliphatic hydroxy acids, OH- or COOH-terminated polybutadienes, and COOH-terminated polycaprolactones. Examples include .apprx.250 prepns. and 511 dispersions of pigments, dispersants, and diluents.				
IC	ICM C08G081-00				
	ICS B01F017-00; C09B067-00; C09D011-02; C09D017-00				
CC	42-6 (Coatings, Inks, and Related Products)				
	Section cross-reference(s): 38				
ST	pigment dispersing agent; polybutadiene adduct dispersant; polycaprolactone adduct dispersant; hydroxy acid adduct dispersant				
IT	Alkyd resins				
	RL: USES (Uses)				
	(dispersants, for pigments for inks and prints)				
IT	Pigments				
	(dispersion agents for, for paints and inks)				
IT	Rubber, butadiene, compounds				
	RL: USES (Uses)				
	(carboxy-terminated, reaction products, with functional polymers, dispersants for pigments)				
IT	Siloxanes and Silicones, compounds				
	RL: USES (Uses)				
	(di-Me, reaction products, with functional polymers, dispersants for pigments)				
IT	Polyimides, compounds				
	RL: USES (Uses)				
	(polyester-, reaction products, with functional polymers, dispersants for pigments)				
IT	Polyesters, compounds				
	RL: USES (Uses)				
	(polyimide-, reaction products, with functional polymers, dispersants for pigments)				
IT	Inks				
	(printing, dispersing agents for pigments in)				
IT	Epoxy resins, compounds				
	Fatty acids, compounds				
	Polyamines				
	Polyesters, compounds				
	Resin acids and Rosin acids				
	RL: USES (Uses)				
	(reaction products, with functional polymers, dispersants for pigments)				
IT	Fatty acids, compounds				
	RL: USES (Uses)				
	(tall-oil, reaction products, with functional polymers, dispersants for pigments)				
IT	77-99-6D, Trimethylolpropane, reaction products with functional polymers				
	79-10-7D, 2-Propenoic acid, reaction products with functional polymers				
	80-52-4D, reaction products with functional polymers 81-30-1D,				
	Naphthalenetetracarboxylic dianhydride, reaction products with functional polymers				
	85-44-9D, 1,3-Isobenzofurandione, reaction products with functional polymers				
	89-05-4D, Pyromellitic acid, reaction products with functional polymers				
	91-76-9D, reaction products with functional polymers				

92-87-5D, 4,4'-Diaminobiphenyl, reaction products with functional polymers
96-48-0D, reaction products with functional polymers 97-65-4D, Itaconic
acid, reaction products with functional polymers 100-21-0D,
1,4-Benzenedicarboxylic acid, reaction products with functional polymers
105-60-2D, reaction products with functional polymers 106-14-9D,
12-Hydroxystearic acid, reaction products with functional polymers
107-15-3D, 1,2-Ethanediamine, reaction products with functional polymers
107-21-1D, 1,2-Ethandiol, reaction products with functional
polymers 108-29-2D, reaction products with functional polymers
108-31-6D, 2,5-Furandione, reaction products with functional polymers
110-85-0D, Piperazine, reaction products with functional polymers
111-41-1D, reaction products with functional polymers 112-47-0D, 1,10-
Decanediol, reaction products with functional polymers
115-69-5D, 2-Amino-2-methyl-1,3-propanediol, reaction products
with functional polymers 115-77-5D, Pentaerythritol, reaction products
with functional polymers 123-99-9D, Nonanedioic acid, reaction products
with functional polymers 124-09-4D, 1,6-Hexanediamine, reaction products
with functional polymers 128-69-8D, reaction products with functional
polymers 141-22-0D, reaction products with functional polymers
141-82-2D, Propanedioic acid, reaction products with functional polymers
142-62-1D, Caproic acid, reaction products with functional polymers
514-10-3D, Abietic acid, reaction products with functional polymers
556-67-2D, reaction products with functional polymers 629-11-8D, 1,6-
Hexanediol, reaction products with functional polymers
693-23-2D, Dodecanedioic acid, reaction products with functional polymers
822-06-0D, reaction products with functional polymers 1122-58-3D,
reaction products with functional polymers 1675-54-3D, reaction products
with functional polymers 1740-19-8D, Dehydroabietic acid, reaction
products with functional polymers 1954-28-5D, Triethylene glycol
diglycidyl ether, reaction products with functional polymers 2224-15-9D,
reaction products with functional polymers 2421-28-5D, reaction products
with functional polymers 2426-08-6D, Butyl glycidyl ether, reaction
products with functional polymers 2432-99-7D, 11-Aminoundecanoic acid,
reaction products with functional polymers 4097-89-6D,
N,N-Bis(2-aminoethyl)-1,2-ethanediamine, reaction products with functional
polymers 4767-03-7D, 2,2-Dimethylolpropanoic acid, reaction products
with functional polymers 5698-29-3D, 2-Oxonanone, reaction products with
functional polymers 6864-37-5D, 3,3'-Dimethyl-4,4'-
diaminodicyclohexylmethane, reaction products with functional polymers
7209-38-3D, 1,4-Bis(3-aminopropyl)piperazine, reaction products with
functional polymers 9002-98-6D, reaction products with
functional polymers 10563-26-5D, N,N'-Bis(3-aminopropyl)ethylene
diamine, reaction products with functional polymers 12624-35-0D,
reaction products with functional polymers 13190-57-3D, reaction
products with functional polymers 13827-62-8D, 2,6-Naphthalenedisulfonyl
dichloride, reaction products with functional polymers 16803-97-7D,
reaction products with functional polymers 21860-03-7D,
2,5-Di-tert-butylaniline, reaction products with functional polymers
25068-38-6D, reaction products with functional polymers 26603-36-1D,
Benzenedimethanamine, reaction products with functional polymers
28631-79-0D, Aminoethylpiperazine, reaction products with functional
polymers 36003-87-9D, reaction products with functional polymers
37348-52-0D, DEN 431, reaction products with functional polymers
39817-09-9D, Bisphenol F diglycidyl ether, reaction products with
functional polymers 74913-72-7D, Polymin P, reaction products
with functional polymers 111842-58-1D, reaction products with functional
polymers 125523-32-2D, Escorez 8000, reaction products with functional
polymers 125523-90-2D, Polymin G 10, reaction products with functional
polymers
RL: USES (Uses)

(dispersants, for pigments for inks and paints)

IT 9003-17-2
RL: USES (Uses)
(rubber, carboxy-terminated, reaction products, with functional polymers, dispersants for pigments)

IT 9002-98-6D, reaction products with functional polymers
74913-72-7D, Polymin P, reaction products with functional polymers
RL: USES (Uses)
(dispersants, for pigments for inks and paints)

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N



RN 74913-72-7 HCAPLUS
CN Polymin P (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L58 ANSWER 45 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1984:440058 HCAPLUS
DN 101:40058
TI Adsorption of water-soluble, nonionic polymers onto cellulosic fibers
AU Ishimaru, Yutaka; Lindstroem, Tom
CS Fac. Agric., Kyoto Univ., Kyoto, 606, Japan
SO Journal of Applied Polymer Science (1984), 29(5), 1675-91
CODEN: JAPNAB; ISSN: 0021-8995
DT Journal
LA English
AB Of the 12 nonionic water-soluble polymers tested for adsorption onto 3 different types of softwood pulp (i.e., bleached kraft, unbleached kraft, and mech. pulp) as well as acetylated bleached and unbleached kraft pulp, polymers [i.e., polyglycidol [25722-70-7], polyacrylamide (I) [9003-05-8], methylolated I, and poly(vinyl alc.) [9002-89-5]] having an ability to both accept and donate protons are not adsorbed onto any of the pulps, mainly because of the intramol. H bonds in the polymers. Hydrolyzed poly(vinyl acetate) (II) (degree of hydrolysis 87-89 mol%) poly(vinyl Me ether) [9003-09-2], and poly(vinyl pyrrolidone) [9003-39-8] are strongly adsorbed onto unbleached kraft pulp, but not at all onto bleached pulp. In this case, the major part of the interaction between the polymers and the fiber surface is caused by an interaction between phenolic and(or) catecholic groups in the lignin in the unbleached pulp and proton-accepting groups in the polymers. Methyl cellulose [9004-67-5], polygalactomannan [11078-30-1], and polymethacrylamide (III) [25014-12-4] show a similar adsorption on bleached and unbleached pulp and are only weakly adsorbed onto mech. pulp. For these polymers H bonding interactions with cellulose are important for the affinity toward the fibers. For hydrophobic group-containing polymers (i.e., hydroxypropyl cellulose [9004-64-2], III, and hydrolyzed II (degree of hydrolysis 78-81 mol%), hydrophobic interactions affect their adsorption behavior.

CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)

ST adsorption nonionic polymer cellulose pulp
 IT Pulp, cellulose
 (adsorption by, of nonionic polymers, polymer functional group-pulp interactions in relation to)
 IT Adsorption
 (of nonionic water-soluble polymers, by cellulose pulps, polymer functional group-pulp interactions in relation to)
 IT 9002-89-5 9003-05-8 9003-05-8D, methylolated 9003-09-2
 9003-20-7D, hydrolyzed 9003-39-8 9004-64-2 9004-67-5
 11078-30-1 25014-12-4 25722-70-7
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (adsorption of, by cellulose pulps, polymer functional group-pulp interactions in relation to)
 IT 9003-20-7D, hydrolyzed
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (adsorption of, by cellulose pulps, polymer functional group-pulp interactions in relation to)
 RN 9003-20-7 HCAPLUS
 CN Acetic acid ethenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 108-05-4
 CMF C4 H6 O2

AcO-CH=CH₂

=>